

## Atlantic Ocean Basin

The Atlantic Ocean Basin is comprised of a single HUC (02080110) encompassing the eastern half of Virginia's Eastern Shore whose coastal lagoons and barrier islands are largely unaltered by human impact and are considered the best remaining Atlantic coast wilderness. The basin is located within the Conservancy's Chesapeake Bay Lowlands Ecoregion and has significant acreage protected through local, state, federal and private efforts. Conservation targets include nearshore Atlantic marine fauna, coastal estuarine and lagoon systems, the barrier island systems, migratory shorebirds, waterfowl, land birds and raptors, and breeding barrier island and lagoon birds.

The projects discussed in this section serve as mitigation for permitted impacts within the Atlantic Ocean Basin for which the Fund was used as compensatory mitigation. All approved projects through 2008 are listed on the below tables. Complete project descriptions for projects approved prior to 2008 may be found in the 2007 Annual Report. Updates are given for each project as applicable. Complete descriptions of projects approved during 2008 are provided below. While these projects may not be considered typical mitigation for wetland impacts, their role in the improvement of water quality and benefit to fish and wildlife has proven appropriate for funding through the program.

There have been no proposed non-tidal wetland projects in this basin, although 0.62 acres of impacts have accrued in the basin with a mitigation liability of 1.21 credits. To date, the Fund has not been used to mitigate for stream impacts in this basin.

The following table provides a summary of projects for which funds were approved in this basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type.

**Table 1: Approved Project Summary for the Atlantic Ocean Basin.**

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects (\$)	Tidal Wetland Projects (\$)	Stream Projects (\$)
AO-1	Virginia Coast Reserve (SAV Beds)	M	6/10/05	0	50,000	0
AO-2	Virginia Coast Reserve (Oyster Beds)	M	6/10/05	0	156,350	0
AO-3	Virginia Coast Reserve (SAV Beds II)	M	8/5/08	0	50,000	0
<b>Totals</b>				<b>0</b>	<b>256,350</b>	<b>0</b>
<b>Grand Total</b>				<b>256,350</b>		
M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey						

The following table summarizes the status, proposed mitigation activity type and associated acreage, and proposed credit for each tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Atlantic Ocean Basin. In addition, the table provides the amount

of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted.

**Table 2: Tidal Wetland Project Summary for the Atlantic Ocean Basin.**

Project Information		Tidal Marsh	SAV	Oyster	Tidal	Tidal	Mitigation	Proposed
Project ID	Status	Rest	Rest	Rest	Enh	Pres	Acres	Credits
AO-1	M	0.00	10.00	0.00	0.00	0.00	10.00	2.00
AO-2	M	0.00	0.00	3.00	0.00	0.00	3.00	0.60
AO-3	I, M	0.00	10.00	0.00	0.00	0.00	10.00	2.00
Acre Sub-totals		0.00	20.00	3.00	0.00	0.00	23.00	4.60
Credit Sub-totals		0.00	4.00	0.60	0.00	0.00		
Total Acres of Tidal Impacts					1.01			
Total Mitigation Liability					1.01			
Total Proposed Credits					4.60			
*Percent of Wetland Acreage Replacement					455.5			
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress				
P - Planning / permitting				M - Mitigation monitoring				
D - Pending delineation / assessment				CA - Corrective actions necessary				
C - Closed				PC - Pending project closure				
*It should be noted that the restoration in this basin is "out of kind" and is credited at a 5:1 ratio								

## Project Summaries

The following section provides a detailed summary of each project located within the Atlantic Ocean Basin for which the Corps has authorized funds through 2008. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

### AO-1 Virginia Coast Reserve (SAV Beds)

Please refer to the 2007 Annual Report for a detailed project description.

The purpose of this project is to restore ten acres of submerged seagrass beds, primarily eelgrass (*Zostera marina*), within the seaside coastal bays of the Eastern Shore.

Monitoring of the establishment and an assessment of seedlings in these plots will be conducted annually until 2011. In the spring 2008, each of the 10 plots was assessed for plant presence by counting plants along two diagonal transects. Plants were found to be well established along each transect in all of the 10 plots signifying initial success of the project. Due to the unique nature of the activities in this project a 5:1 ratio is applied to the crediting of this project.

### AO-2 Virginia Coast Reserve (Oyster Beds)

Please refer to the 2007 Annual Report for a detailed project description.

The purpose of this project is to restore four acres of functional oyster reefs in the coastal bays of the Eastern Shore. Monitoring is scheduled for a total of five years, ending in 2009. Annual monitoring reports are submitted to the Corps during the spring of the subsequent year.

The fourth year monitoring event for the site was completed in 2008. Both reefs were monitored for oyster density (per square meter), spat fall and oyster growth, biomass, and total reef acreage. The monitoring results indicate good oyster growth, excellent spat fall, and significant natural recruitment at the sites. A slight decrease in oyster density was recorded in 2008. This is to be expected with the continued increase in oyster size on the reefs. The total acreage of reefs restored as part of the project to date is approximately 3.01 acres. Due to the unique nature of the activities in this project a 5:1 ratio is applied to the crediting of project.

### **AO-3 Virginia Coast Reserve (SAV Beds II)**

The purpose of this project is to restore ten acres of submerged seagrass beds, primarily eelgrass (*Zostera marina*), within the seaside coastal bays of the Eastern Shore. The funding for this project was approved by the Corps on August 5, 2008. This project was sponsored and implemented by the Virginia Institute of Marine Science (VIMS). VIMS proposed to harvest and broadcast a minimum of 100,000 seeds per acre in the fall of 2008 to cover a total of five acres and an additional five acres in 2009. The eelgrass plots are concentrated in the Gull Marsh area, specifically Spider Crab Bay. Monitoring is scheduled to take place for a total of five years, ending in 2013. Annual monitoring reports are submitted to the Corps by the end of January each year.

Seed broadcasting and planting was conducted in the fall of 2008 and will be conducted again in the fall of 2009, just prior to seed germination which begins in late November. In 2008, this involved broadcasting seeds into ten pre-determined half-acre plots in Spider Crab Bay. Seeds were broadcast at 100,000 seeds per acre; 50,000 seeds into each of ten half-acre plots in 2008. Hand broadcasting has been the traditional method VIMS has used in the past. These densities were based on densities used in previous re-seeding efforts in the coastal bays.

Monitoring of the establishment and an assessment of seedlings in these plots will be conducted annually until 2013. Due to the unique nature of the activities in this project a 5:1 ratio is applied to the crediting of project.

### **Big Sandy Basin.**

The Big Sandy Basin is comprised of two HUCs (0507202 and 0507201) that flow northwest out of the Appalachian Mountains of Southwestern Virginia into Kentucky and West Virginia. This basin is within the Conservancy's Cumberland and Southern Ridge and Valley and Central Appalachian Ecoregions.

The Fund has been used to mitigate 0.11 acres of non-tidal wetland impacts and 3,006 linear feet of stream impacts in the Big Sandy Basin. Through 2008, the Conservancy has not requested funds to pursue any mitigation projects in this basin.

## **Chesapeake Bay Basin**

The Chesapeake Bay Basin is comprised of three HUCs (02080101, 02080102, and 02080109) that surround one of the largest and most productive bay ecosystems on the east coast of the United States. The basin is located within the Conservancy's Chesapeake Bay Lowlands Ecoregion and is the focal area of several conservation groups, including the Chesapeake Bay Foundation and the Alliance for the Chesapeake Bay, as well as efforts of federal, state, and local governments. Conservation targets include migratory waterfowl, high-energy beaches, and bayside estuarine systems.

The projects discussed in this section serve as mitigation for permitted impacts within the Chesapeake Bay Basin for which the Fund was used as compensatory mitigation. All approved projects through 2008 are listed on the below tables. Complete project descriptions for projects approved prior to 2008 may be found in the 2007 Annual Report. Updates are given for each project as applicable. Complete descriptions of projects approved during 2008 are provided below.

The following table provides a summary of projects for which funds were approved in the Chesapeake Bay Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type.

**Table 3: Approved Project Summary for the Chesapeake Bay Basin.**

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects (\$)	Tidal Wetland Projects (\$)	Stream Projects (\$)
CB-1	Dameron Marsh (Smith 1)	M	10/9/97	105,752	10,000	0
CB-2	New Point Comfort (Trimmer)	M	1/11/00	100	1,736	0
			8/28/08	2,945	0	0
CB-3	Dragon Run (Calhoun 1; Piedmont Farms)	M	2/6/04	150,000	0	50,000
CB-4	Dragon Run (Byrd)	M	8/5/04	43,800	0	43,800
CB-5 / CH-12	Eastern Virginia Phragmites Control	M	8/30/02	0	20,000	0
			9/9/03	0	20,000	0
			8/31/04	0	12,666	0
CB-6	Dragon Run (Calhoun 2; Piedmont Farms)	M	2/1/05	66,588	0	28,538
CB-7	Dragon Run (Calhoun 3; Piedmont Farms)	M	4/25/05	12,000	0	0
CB-8 / YK-4	Upper Crab Neck (BP North America)	M	4/21/05	42,500	0	0
			2/22/07	7,120	0	0
CB-9*	Guinea Neck Site	F	6/1/06	6,800	0	0
CB-10	East River (Brooks/Ober)	M	10/5/06	28,496	0	0
			2/22/07	192,450	0	0
CB-11	Dragon Run (Friends of Dragon Run)	M	12/7/06	66,300	0	11,700
			6/16/08	12,114	0	2,138
CB-12	Guillford Shores Site	M	12/7/06	3,732	9,000	0
CB-13	Dameron Marsh/Hughlett Point/Fleet Bay (Thompson et al)	M	7/27/07	2,750	2,750	0
			6/16/08	40,000	0	0
			11/02/08	313,000	0	0
CB-14*	York Complex (Harris Creek site)	M	8/10/07	2,500	2,500	0
CB-15	Dragon Run site	M	8/10/07	122,472	0	0
CB-16	Jacobus Creek (Hampton)	M	9/24/08	0	9,372	0
CB-17	Dameron Marsh/Hughlett Point/Fleet Bay (Thompson, William)	M	11/2/08	313,000	0	0
<b>Totals</b>				<b>1,534,319</b>	<b>88,024</b>	<b>136,176</b>
<b>Grand Total</b>				<b>1,758,518</b>		
<p>* Project is no longer pursued due to landowner constraints or the results of feasibility studies.</p> <p>M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey</p>						

Table 4 provides a summary of projects which have closed in the Chesapeake Bay Basin.

**Table 4: Closed Project Summary for the Chesapeake Bay Basin.**

Project ID	Corps Approval Date	Corps Closure Date	Amount Approved (\$)	Amount Returned (\$)	Amount Unallocated (\$)	Wetland Credits	Stream Activity	
							Buffer preservation (lf)	Livestock exclusion (lf)
CB-3	2/6/04	12/16/08	200,000.00	143,196	577	5.95	6,613	N/A
CB-5/ CH-12	8/30/02	8/14/07	52,666.25	0	9,475	1.4	N/A	N/A
	9/9/03							
	8/31/04							
CB-6	2/1/05	12/16/08	95,126.00	55,677	0	4.52	1,550	N/A
CB-7	4/25/05	12/16/08	12,000.00	3,044	0	0.36	N/A	N/A
CB-9	6/1/06	7/27/07	6,800.00	0	0	N/A	N/A	N/A
CB-12	12/7/06	8/5/08	12,732.00	0	12,457	N/A	N/A	N/A
CB-14	8/10/07	12/16/08	5,000.00	0	2,500	N/A	N/A	N/A
<b>Totals</b>			<b>384,324.25</b>	<b>201,917</b>	<b>25,009</b>	<b>12.23</b>	<b>8,163.00</b>	<b>N/A</b>

The following tables summarize the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal and tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Chesapeake Bay Basin. In addition, the tables provide the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The tables do not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

**Table 5: Non-Tidal Wetland Project Summary for the Chesapeake Bay Basin.**

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed	Additional
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres	Acres	Credits	Protected Acreage
CB-1	M	15.88	13.72	0	21.33	0.21	51.14	18.68	0
CB-2	PC	0	11.18	0	0	2.79	13.97	1.26	0
CB-3	C	0	59.53	0	0	0	59.53	5.95	47.45
CB-4	PC	0	2.64	0	0	0	2.64	0.26	33.81
CB-6	C	0	37.14	0	0	16.18	53.32	4.52	0
CB-7	C	0	3.49	0	0	0.21	3.7	0.36	0
CB-8/ YH-4	PC	0	361.1	0	0	150.4	511.5	43.63	0
CB-10	M	12.5	5.97	0	4.2	18.2	41	14.29	0
CB-11	PC	0	35	0	0	13.4	48.4	4.17	0
CB-13	PC	0	93	0	0	35	128	11.05	158
CB-15	PC	0	15	0	0	2.62	17.62	1.63	28.38
CB-17	P	14	95	0	0	23	132	24.65	34
Sub-totals		42.38	732.77	0.00	25.53	262.01	1062.82	130.46	301.64
Total Acres of Non-Tidal Impacts44.46									
Total Mitigation Liability84.09									
Total Proposed Credits130.46									
Percent of Wetland Acreage Replacement95.3									
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress					
P - Planning / permitting				M - Mitigation monitoring					
D - Pending delineation / assessment				CA - Corrective actions necessary					
C - Closed				PC - Pending project closure					
Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).									



**Table 6: Tidal Wetland Project Summary for the Chesapeake Bay Basin.**

Project Information		Tidal Marsh	SAV	Oyster	Tidal	Tidal	Upland	Mitigation	Proposed
Project ID	Status	Rest	Rest	Rest	Enh	Pres	Buffer Pres	Acres	Credits
CB-1	M	0	0	0	0	13.5	0	13.5	1.35
CB-2	PC	0	0	0	0	30.77	0	30.77	3.08
CB-5/CH-12	C	0	0	0	70	0	0	70	1.40
CB-13	PC	0	0	0	0	33	21	54	3.30
CB-16	D, PC	0	0	0	0	3.41	2.01	5.42	0.34
CB-17	P	0	0	0	0	40	15	55	4.00
Acre Sub-totals		0.00	0.00	0.00	70.00	120.68	38.01	228.69	13.47
Credit Sub-totals		0.00	0.00	0.00	1.40	12.07			
Total Acres of Tidal Impacts1.06									
Total Mitigation Liability1.06									
Total Proposed Credits13.47									
Percent of Wetland Acreage Replacement0.0									
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress					
P - Planning / permitting				M - Mitigation monitoring					
D - Pending delineation / assessment				CA - Corrective actions necessary					
C - Closed				PC - Pending project closure					

As noted in Section II, the Fund has been used to mitigate for 1,399 linear feet of permitted stream impacts in the Chesapeake Bay River Basin through 2008. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Chesapeake Bay Basin. To date all projects have been approved through pre-USM funds.

**Table 7: Stream Project Summary for the Chesapeake Bay Basin.**

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
CB-3*	C	24.24	6,613	Riparian buffer preservation of 6,613 lf along the right bank of Dragon Run with an existing mature wooded buffer extending 100 to 225 feet from the edge of the protected stream and wetland complex.	Reported under the wetlands summary
CB-4*	PC	5.55	2,205	Riparian buffer preservation of 2,205 lf along the right bank of Timber Branch Swamp with an existing mature wooded buffer extending 100 feet from the edge of the protected stream and wetland complex.	Reported under the wetlands summary
CB-6*	C	7.12	1,550	Riparian buffer preservation of 1,550 lf along the right bank of Dragon Run with an existing mature wooded buffer extending 200 feet from the edge of the protected stream and wetland complex.	0.00
CB-11*	PC	3.60	800	Riparian buffer preservation of 800 lf along the right bank of Dragon Run with an existing mature wooded buffer extending 200 feet from the edge of the protected stream and wetland complex.	0.00
<b>Totals</b>		<b>40.51</b>	<b>11,168</b>		<b>0.00</b>
ac - acre lf - linear feet LP - Pending finalization of land protection P - Planning / permitting C - Closed * Project includes wetland mitigation.  Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture). Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").				D - Pending delineation / assessment I - Restoration / Enhancement activities in progress M - Mitigation monitoring CA - Corrective actions necessary PC - Pending project closure	

**Project Summaries**

The following section provides a detailed summary of each project located within the Chesapeake Bay Basin for which the Corps authorized funds during 2008. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project. Please refer to the 2007 Annual Report for detailed descriptions of project funded prior to 2008.

**CB-1 Dameron Marsh (Smith 1)**

The purpose of this project is to conduct non-tidal wetland establishment, non-tidal and tidal wetland preservation, and upland buffer restoration and preservation at the Dameron Marsh property in Northumberland County. The funding for this project was approved by the Corps on October 9, 1997. The site was purchased by the Conservancy on December 10, 1997. The site is now managed as a State Natural Area Preserve (NAP) by the Virginia Department of Conservation and Recreation (DCR) Natural Heritage Program. Long-term protection is achieved through the dedication and maintenance of the site as a NAP.

The 2008 wetland mitigation monitoring of the site showed that only 40% of the vegetation plots on the site exhibited wetland plant communities and that all of the plots exhibited the woody plant stem densities required by the success criteria for the site. A site assessment will be done in 2009 to determine what corrective action may be needed to correct the lack of hydrophytic vegetation. The majority of shallow groundwater hydrology wells installed at the site failed to collect data for long enough, due to age and the harsh coastal environment, to accurately determine wetland hydrology for the site through the 2008 growing season. New wells will be installed on the site and monitored during the 2009 growing season. This is the seventh year post construction and mitigation monitoring is scheduled through 2011 with reports submitted to the Corps.

#### **CB-2 New Point Comfort (Trimmer)**

The purpose of this project is to conduct non-tidal and tidal wetland preservation and upland preservation at the Trimmer property located in Mathews County. An Army Corps of Engineers confirmation of a wetland delineation of the site will occur in 2009 to determine mitigation credit. The Conservancy anticipates closing the project in 2009.

#### **CB-3 Dragon Run (Calhoun 1; Piedmont Farms)**

The purpose of this project is to conduct a non-tidal wetland, stream, and the associated upland riparian buffer preservation at the Dragon Run (Calhoun 1; Piedmont Farms) site in Middlesex County.

A delineation of surface waters and wetlands on the property was conducted and confirmed by Corps in January 2006. The non-tidal wetland (59.53 acres) is comprised primarily of mature bottomland hardwood swamp. The delineation identified 6,613 linear feet of the right bank of Dragon Run located on the property. A “no-touch” buffer (24.24 acres) ranging from 100 to 225 feet will be maintained landward from the outside limits of the stream and wetland system. Other upland areas, designated as additional protected acreage, are estimated at 47.45 acres and are comprised of loblolly pine plantation forest and cleared timber land that will be managed and are not part of the mitigation acres. This site was sold subject to conservation easement in 2007. Proceeds from the sale, \$143,195.52 were returned to the general balance of the Fund. The Conservancy requested official closure of this project in 2008. The project was officially closed via a letter from the Army Corps of Engineers dated December 16, 2008. Funds in the amount of \$143,772.64 were returned to the general balance of the Fund, with \$143,195.52 coming from the sale of the land.

#### **CB-4 Dragon Run (Byrd)**

The purpose of this project is to conduct non-tidal wetland, stream, and the associated upland riparian buffer preservation at the Dragon Run (Byrd) property in King and Queen County protected acreage as they will not be developed.

This site was sold subject to deed restrictions in 2007. Proceeds from the sale, \$65,000.00 were returned to the general balance of the Fund. The Conservancy will request official closure of the project in 2009.

#### **CB-5/CH-12 Eastern Virginia Phragmites Control**

This project was officially closed in 2007. Please reference the 2007 Annual Report for details on this project.

**CB-6 Dragon Run (Calhoun 2; Piedmont Farms)**

The purpose of this project is to conduct non-tidal wetland and associated upland buffer preservation and stream and the associated upland riparian buffer preservation at the Dragon Run (Calhoun 2; Piedmont Farms) site in Middlesex County. The funding for this project was approved by the Corps on February 1, 2005. The property was acquired by the Conservancy on July 13, 2005. Two additional adjacent properties (projects CB-3 and CB-7) were acquired in separate purchases. Long-term protection will be achieved through the monitoring and enforcement of the conservation easement. No additional monitoring is required for this project.

A delineation of surface waters and wetlands of this property was conducted and confirmed by Corps in January 2006. The delineation identified 37.14 acres of wetland and an estimated 1,550 linear feet of the right bank of Dragon Run located on the property. A 200 foot “no-touch” buffer (7.12 acres) will be maintained from the outside limits of the stream and wetland system. The remaining 16.18 acres is upland that is preserved. The entire property (60.44 acres) is considered mitigation area. This site was sold subject to conservation easement in 2007. Proceeds from the sale, \$55,676.88 were returned to the general balance of the Fund. The Conservancy requested official closure of this project in 2008. The project was officially closed via a letter from the Army Corps of Engineers dated December 16, 2008. Funds in the amount of \$55,676.88 were returned to the general balance of the Fund, with all \$55,676.88 coming from the sale of the land.

**CB-7 Dragon Run (Calhoun 3; Piedmont Farms)**

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the Dragon Run (Calhoun 3; Piedmont Farms) site in Middlesex County. Long-term protection will be achieved through the monitoring and enforcement of the conservation easement. No additional monitoring is required for this project.

A delineation of surface waters and wetlands of this property was conducted and confirmed by Corps in January 2006. The project area is approximately 3.70 acres that consists of 3.49 acres of forested wetland and 0.21 acres of upland loblolly pine plantation forest and dirt roads, all of which is considered mitigation area. This site was sold subject to conservation easement in 2007. Proceeds from the sale, \$3,043.61 were returned to the general balance of the Fund. The Conservancy requested official closure of this project in 2008. The project was officially closed via a letter from the Army Corps of Engineers dated December 16, 2008. Funds in the amount of \$3,043.61 were returned to the general balance of the Fund, with all \$3,043.61 coming from the sale of the land.

**CB-8/YK-4 Upper Crab Neck (BP America)**

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the Upper Crab Neck (BP America) site in York County. The funding for this project was approved by the Corps on April 21, 2005 and on February 22, 2007. The property was donated to the Conservancy by BP America on May 11, 2006. The Conservancy plans to transfer this site to the Virginia Department of Game and Inland Fisheries (DGIF) subject to Corps approval of the deed restriction. No additional monitoring is required for this project.

A delineation of surface waters and wetlands was confirmed by the Corps in April 2002 and the mapping from this delineation was used to estimate wetland and upland acres in Chesapeake Bay Basin and York River Basin using a GIS. The Conservancy is negotiating a transfer of the property, and will request official closure of the project once the transfer is completed.

**CB-9 Guinea Neck Site**

This project was officially closed in 2007. Please reference the 2007 Annual Report for details on this project.

**CB-10 East River (Brooks/Ober)**

The purpose of this project is to conduct a feasibility study to address the potential for non-tidal wetland restoration and creation and upland buffer restoration and to support acquisition activities at the East River (Brooks/Ober) property in Mathews County. The funding request to complete a feasibility study for the site and to support acquisition activities was approved by the Corps on October 5, 2006. The feasibility study was completed December 20, 2006. The project involves a donation of a conservation easement to the Middle Peninsula Land Trust (MPLT) and donation of fee simple interest to the Conservancy. Long-term protection will be achieved through the monitoring and enforcement of the easement by the MPLT.

A delineation of surface waters and wetlands was completed and submitted to the Corps on December 20, 2006. This delineation identified 5.87 acres of forested wetlands on the property; however, this must be confirmed by the Corps. The conceptual mitigation plan indicates that perhaps as many as 14 wetland mitigation credits may be developed on the site; however, a better understanding of seasonal groundwater levels is critical to the design. Based upon the information that was collected in the feasibility, the Conservancy determined it is a suitable non-tidal wetland mitigation opportunity and secured funding in 2007 to restore 12.5 acres of forested non-tidal wetlands and 4.2 acres of upland field through vegetation establishment techniques. Reforestation of the site occurred in spring of 2008. The project also includes the preservation of 5.97 acres of non-tidal forested wetland and 18.2 acres of upland forest. The monitoring period for the site will begin in 2009 and continue until 2018 with reports being submitted to the Corps.

**CB-11 Dragon Run (Friends of Dragon Run)**

The purpose of this project is to conduct non-tidal wetland and associated upland buffer preservation and stream and associated upland riparian buffer preservation at this site in King and Queen County. The funding for this project was approved by the Corps on December 7, 2006. A subsequent funding approval was granted on June 16, 2008. The Friends of Dragon Run closed the land acquisition of the property on June 5, 2008. Long-term protection was achieved through a conservation easement placed on the property with the Virginia Outdoors Foundation (VOF) recorded on June 5, 2008. Long-term protection of the site will be accomplished through the monitoring and enforcement of the easement by VOF. No additional monitoring is required for this project.

Stream mitigation consists of the preservation of a 200 foot mature forested riparian buffer along the right bank of approximately 800 linear feet (3.60 acres) of Dragon Run at the southern end of the property. This avoids the “double-dipping” issue for claiming the wetland credits proposed above. A confirmed delineation of the site is required to determine mitigation credit. A wetland delineation of the site was conducted in 2008 and is pending confirmation by the Corps. Following confirmation, the Conservancy will request project closure in 2009.

**CB-12 Guilford Shores Site**

The purpose of this project was to conduct tidal wetland, non-tidal wetland, and upland buffer preservation at a site in Accomack County. The initial funding for this project was approved by the Corps on December 7, 2006. A donated conservation easement to the Conservancy would

have provided long-term protection.

Negotiations with the landowners have not yielded a viable mitigation project. The Conservancy was unable to reach terms with the Landowner and the project was officially closed without mitigation credit via a letter from the Army Corps of Engineers dated August 5, 2008.

**CB-13 – Dameron Marsh/Hughlett Point/Fleet Bay (Thompson et al)**

The purpose of this project is to conduct non-tidal and tidal wetland preservation at this site in Northumberland County. The funding for a wetland assessment and delineation and full acquisition of this project was approved by the Corps in three approvals granted on July 27, 2007, June 16, 2008, and November 2, 2008. Long-term protection was achieved through a conservation easement being placed on the property on December 23, 2008. Monitoring and enforcement of the easement will provide the long-term protection. No additional monitoring would be required for this project.

The project area is approximately 340 acres of the Thompson family tract on the south side of Ball Creek which flows directly into Chesapeake Bay. The project contains a non-tidal wetland mitigation area of 128 acres. This area includes 93 acres of non-tidal wetlands and 35 acres of upland buffer that will be preserved for mitigation. The tidal wetland mitigation area encompasses 54 acres and includes 33 acres of tidal wetlands and 21 acres of upland buffer that will be preserved for mitigation. Within the easement area is 158 acres of “additional protected lands.”

The Thompson property contains exemplary Chesapeake Bay habitats including extensive estuarine wetlands which are particularly important nursery and spawning habitats for brackish and marine fishes and shellfish such as striped bass, menhaden, blue crab, and oysters, various waterfowl, migratory shorebirds, colonial water nesting birds, several species of rails, and raptors, including marsh harriers, osprey and bald eagles. Moreover, the beach/dune communities on this property provides habitat for Northeastern beach tiger beetle, a federally threatened species. The forested portion of the property ensures that Ball Creek has excellent water quality to support many of the estuarine species listed above.

A delineation of the site was completed and confirmed by the Army Corps of Engineers in 2008. The Conservancy will request closure of the project in 2009.

**CB-14 – York Complex (Harris Creek Site)**

The purpose of this project was to conduct non-tidal and tidal wetland preservation for wetland mitigation at this site in Hampton along Back River. The 170 acre property contains approximately 109 acres of tidal wetlands and 47 acres of non-tidal wetlands. A wetland delineation would need to be completed to determine exact wetland acres by type for mitigation credit assessment. The funding for an appraisal of the property to determine fair market value was approved by the Corps on August 10, 2007. The appraisal was used to negotiate the purchase of the property. The Conservancy was unable to reach terms with the landowner and the project was officially closed without mitigation credit via a letter from the Army Corps of Engineers dated December 16, 2008.

**CB-15 – Dragon Run Site**

The purpose of this project is to conduct a wetland and upland buffer stream preservation project along Dragon Run in King and Queen County, Virginia. On August 13, 2007, the Corps approved the purchase of the conservation easement over the 46 acre property. Long-term protection will be provided by the conservation easement. Monitoring and enforcement of the conservation easement will maintain the long-term protection of the property.

The Nature Conservancy is currently pursuing the purchase of the conservation easement on this property. There is one home on the property, but the potential exists to develop the site into a total of three (3) waterfront homes, making the acquisition of the conservation easement important to the protection of the Dragon Run.

The Conservancy anticipates closing on the conservation easement on the property in 2009. A confirmation by the Army Corps of Engineers of a delineation of the site to determine mitigation credits will be completed in 2009. The Conservancy will request official closure of the site in 2009.

#### **CB-16 – Jacobus Creek (Hampton)**

The purpose of this project is to perform wetland and upland buffer preservation on the bayside of Northampton County, Virginia. On September 24, 2008 the Corps approved funding for the legal costs associated with closing on a donated conservation easement on the entire 48 acre property. The site contains 3.41 acres of emergent marsh that will be preserved and 2.01 acres of upland buffer that will be preserved to protect the water quality of the nearby aquatic systems. The long term protection of the site was accomplished through the recording of a donated conservation easement to the Conservancy on December 8, 2008. Monitoring and enforcement of the easement will provide the long-term protection. No additional monitoring will be required for this project.

The Conservancy will request closure of this project in 2009 pending a surface water delineation of the site to determine credit.

#### **CB-17 – Dameron Marsh/Hughlett Point/Fleet Bay (William Thompson)**

The purpose of this project is to provide non-tidal wetland restoration, tidal and non-tidal preservation, and upland buffer preservation of this 223-acre site in Northumberland County, Virginia. On November 2, 2008 the Corps approved funding for the restoration and preservation of the site. The long-term protection of the site was accomplished through the recordation of a conservation easement held by the Conservancy on December 23, 2008. Long-term protection will be achieved through the monitoring and enforcement of the easement by the Conservancy.

The non-tidal wetland restoration of 14.0 acres of forested wetlands will be accomplished through minor grading of the site, plugging/filling of existing drainage ditches and planting of trees on the site. Approximately 95 acres of non-tidal and 40 acres of tidal wetland preservation will also occur on the site. A 48.00 acre area of upland buffer preservation will ensure the protection of the water quality of the restored and preserved wetlands. An additional 46 acres of land will be protected under the easement.

The Thompson property is found along Ball Creek as it flows into the Chesapeake Bay in Northumberland County, Virginia. This 223-acre property is mostly forested along the north border of Ball Creek, changing to emergent, tidal salt marsh wetlands along the Bay shore with intermittent beaches and dunes lining the Bay margins. The Thompson property contains

exemplary Chesapeake Bay habitats including extensive estuarine wetlands which are particularly important nursery and spawning habitats for brackish and marine fishes and shellfish such as striped bass, menhaden, blue crab, and oysters, various waterfowl, migratory shorebirds, colonial water nesting birds, several species of rails, and raptors, including marsh harriers, osprey and bald eagles. Moreover, the beach/dune communities on this property provide habitat for northeastern beach tiger beetle, a federally threatened species. The forested portion of the property ensures that Ball Creek has excellent water quality to support many of the estuarine species listed above.

The property is located between Dameron Marsh and Hughlett Point, two areas protected by the Virginia Department of Conservation and Recreation. The Thompson tract is sufficiently close to each of these natural areas such that it provides a corridor of connectivity for various species of migratory birds and the federally threatened northeastern tiger beetle. The state of Virginia has designated an area containing the Thompson property and these two nature preserves as being significant to local northeastern tiger beetle populations.

The design portion of the restoration plan is expected to occur in spring/summer of 2009 with implementation of design occurring in fall/winter of 2009/2010.



## **Chowan River Basin**

The Chowan River Basin is comprised of five HUCs (03010201, 03010202, 03010203, 03010204, and 03010205) located in southeastern Virginia extending into northeastern North Carolina. It encompasses the northernmost portion of the Albemarle-Pamlico drainage and is among the best developed embayed wetland environments of the outer Mid-Atlantic Coastal Plain Ecoregion estuary and includes much of the original extent of the Great Dismal Swamp. Conservation targets include blackwater swamp aquatic system, riverine and basin swamp forest, brownwater tributaries and rivers, Atlantic white cedar swamp, bottomland hardwood forest, Roanoke logperch, Atlantic pigtoe, red cockaded woodpecker, and seepage wetlands.

The projects discussed in this section serve as mitigation for permitted impacts within the Chowan River Basin for which the Fund was used as compensatory mitigation. All approved projects through 2008 are listed on the below tables. Complete project descriptions for projects approved prior to 2008 may be found in the 2007 Annual Report. Updates are given for each project as applicable. Complete descriptions of projects approved during 2008 are provided below.

The following table provides a summary of projects for which funds were approved in the Chowan River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type.

**Table 8: Approved Project Summary for the Chowan River Basin.**

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects (\$)	Tidal Wetland Projects (\$)	Stream Projects (\$)
CH-1	Northwest River (Kellam Rigato)	M	12/20/95	37,020	0	0
			8/28/08	4,449	0	0
CH-2	North Landing River (Onesimus Ministries)	M	6/30/97	24,325	0	0
CH-3	Dismal Swamp (Bruff)	M	10/27/97	37,000	0	0
			8/28/08	4,969	0	0
CH-4	North Landing River (Mayo)	M	8/28/98	8,800	0	0
CH-5	Northwest River (Benefits)	M	10/13/98	331,215	0	0
			8/28/08	6,361	0	0
CH-6	Northwest River (Hall)	M	5/26/99	143,204	0	0
CH-7	Nawney Creek (Knight)	M	5/23/00	120,110	0	0
CH-8	Northwest River (Su)	M	3/16/01	395,230	0	0
			2/8/08	25,000	0	0
CH-9 / LJ-4	Northwest River (Stephens)	M	7/17/02	625,000	0	0
CH-10	Northwest River (Powers)	M	3/7/03	333,341	0	0
		M	10/27/04	20,000	0	0
CH-11	Nawney Creek (Fentress)	M	12/19/03	135,000	0	0
CB-5 / CH-12	Eastern Virginia Phragmites Control	M	8/30/02	0	20,000	0
			9/9/03	0	20,000	0
			8/31/04	0	12,666	0
CH-13	Northwest River (SP Forests, LLC)	M	2/2/06	366,700	0	0
CH-14	Raccoon Creek Pinelands site	M	2/8/08	0	0	77,150
<b>Totals</b>				<b>2,617,725</b>	<b>52,666</b>	<b>77,150</b>
<b>Grand Total</b>				<b>2,747,541</b>		
M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey						

Table 9 provides a summary of projects which have closed in the Chowan River Basin.

**Table 9: Closed Project Summary for the Chowan River Basin.**

Project ID	Corps Approval Date	Corps Closure Date	Amount Approved (\$)	Amount Unallocated (\$)	Wetland Credits	Stream Activity	
						Buffer preservation (lf)	Livestock exclusion (lf)
CH-2	6/30/97	8/14/07	24,325	25	5.30	N/A	N/A
CH-4	8/28/98	8/14/07	8,800	40	1.13	N/A	N/A
CB-5/ CH-12	8/30/02	8/14/07	52,666	9,475	1.4	N/A	N/A
	9/9/03						
	8/31/04						
		Totals	85,791	9,539	7.83	N/A	N/A

The following tables summarize the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal and tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Chowan River Basin. In addition, the tables provide the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted.

**Table 10: Non-Tidal Wetland Project Summary for the Chowan River Basin.**

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed	Additional
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres	Acres	Credits	Protected Acreage
CH-1	D,PC	0	125.34	0	0	40.55	165.89	14.56	0
CH-2	C	0	51.8	0	0	2.4	54.2	5.30	0
CH-3	D,PC	3.07	0	0	6.93	0	10	3.53	0
CH-4	C	0	9.45	0	0	3.75	13.2	1.13	0
CH-5	D,PC	11.96	745.98	15.02	0	25.1	798.06	92.82	0
CH-6	M	25	0	0	2	3.8	30.8	25.32	0
CH-7	M	8	0	0	10	0	18	8.67	0
CH-8	M	49	73.28	0	4	7	133.28	56.94	0
CH-9/ LJ-4	M	61	112.1	0	10	2.8	185.9	73.02	0
CH-10	M	25.25	97.1	0	0.5	60.15	183	38.00	0
CH-11	M	19	0	0	3.79	0	22.79	19.25	0
CH-13	P	27.5	122.5	0	0	35	150	41.50	0
CH-14	LP	0	8.5	0	0	3.1	11.6	1.01	149.3
Sub-totals		229.78	1346.05	15.02	37.22	183.65	1776.72	381.06	149.30
Total Acres of Non-Tidal Impacts					41.54				
Total Mitigation Liability					76.14				
Total Proposed Credits					381.06				
Percent of Wetland Acreage Replacement					553.2				
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress					
P - Planning / permitting				M - Mitigation monitoring					
D - Pending delineation / assessment				CA - Corrective actions necessary					
C - Closed				PC - Pending project closure					
Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).									

**Table 11: Tidal Wetland Project Summary for the Chowan River Basin.**

Project Information		Salt Marsh	SAV	Oyster	Tidal	Tidal	Upland Buffer	Mitigation	Proposed
Project #	Status	Rest	Rest	Rest	Enh	Pres	Pres	Acres	Credits
CB-5/ CH-12	C	0	0	0	70.00	0	0	70.00	1.40
Acre Sub-totals		0.00	0.00	0.00	70.00	0.00	0.00	70.00	1.40
Credit Sub-totals		0.00	0.00	0.00	1.40	0.00	0.00		
Total Acres of Tidal Impacts							0.01		
Total Mitigation Liability							0.01		
Total Proposed Credits							1.40		
Percent of Wetland Acreage Replacement							0.00		
LP - Pending finalization of land protection					I - Rest/Enh/Creation activities in progress				
P - Planning/permitting					M - Mitigation monitoring				
D - Pending delineation/assessment					CA - Corrective action necessary				
C - Closed					PC - Pending project closure				

As noted in Section II, the Fund has been used to mitigate for 1,625 linear feet of permitted stream impacts in the Chowan River Basin through 2008. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Chowan River Basin. To date, the Conservancy has requested funds for one stream mitigation project (CH-14) in the Chowan River Basin and the project was approved through pre-USM funds.

**Table 12: Stream Project Summary for the Chowan River Basin.**

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
CH-14*	PC	16.1	4,900	Riparian buffer preservation along 1,000 lf of the south bank of Raccoon Creek with an existing wooded buffer. Stream system preservation along left bank of 2,500 lf of un-named tributary to Raccoon Creek with an existing wooded buffer. Stream system preservation along both banks of 1,400 lf of another un-named tributary to Raccoon Creek with an existing wooded buffer.	Reported under the wetlands summary
Totals		16.1	4,900	160.9	
ac-acre				D - Pending delineation / assessment	
lf - linear feet				I - Restoration / Enhancement activities in progress	
LP - Pending finalization of land protection				M - Mitigation monitoring	
P - Planning / permitting				CA - Corrective actions necessary	
				PC - Pending project closure	
* Project includes wetland mitigation.					
Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).					
Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").					

## **Project Summaries**

The following section provides a detailed summary of each project located within the Chowan River Basin for which the Corps authorized funds during 2008. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project. Please refer to 2007 Annual Report for detailed descriptions of projects approved prior to 2008.

### **CH-1 Northwest River (Kellam Rigato)**

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the Northwest River (Kellam Rigato) property in the City of Chesapeake. The funding for this project was approved by the Corps on December 20, 1995. Subsequent funding was approved on August 28, 2008. The site was purchased by the Conservancy on December 22, 1995. Long-term protection is achieved through Conservancy ownership. No additional monitoring is required for this project.

A wetland delineation of the site will be confirmed by the Corps in 2009 to determine mitigation credit. The Conservancy anticipates closing the project in 2009.

### **CH-2 North Landing River (Onesimus Ministries)**

This project was officially closed in 2007. Details about the project can be found in the 2007 Annual Report.

### **CH-3 Dismal Swamp (Bruff)**

The purpose of this project is to conduct non-tidal wetland restoration and upland buffer restoration at the Dismal Swamp (Bruff) property in Suffolk County. The funding for this project was approved by the Corps on October 27, 1997. Additional funding was approved on August 28, 2008. The site was purchased by the Conservancy on January 20, 1998. The site will be transferred with an approved protective instrument to the United States Fish and Wildlife Service (FWS) after the monitoring period.

The property consists of 10 acres of farmland. A portion of the site was drained by a ditch to north of the agricultural fields. Initial planning identified as much as 5 acres that could be restored by eliminating the drainage from this ditch. Based upon the information collected from the site thus far, the scope of the wetland restoration portion of the project was reduced to 3-5 acres as hydrological restoration of certain areas appears to be doubtful. The site was naturally colonized by a large number of loblolly pines which were overcrowding the planted and naturally colonizing hardwood seedlings; therefore, the FWS sponsored a thinning of the pine during the winter of 2005 in the effort to release the remaining hardwoods from competition, which has had some success.

A delineation of the site will be confirmed by the Corps in 2009 to determine mitigation credits. The Conservancy will request the closure of this project in 2009.

### **CH-4 North Landing River (Mayo)**

This project was officially closed in 2007. Details about the project can be found in the 2007 Annual Report.

#### **CH-5 Northwest River (Benefits)**

The purpose of this project is to conduct non-tidal wetland restoration and enhancement and non-tidal wetland and upland buffer preservation at the Northwest River (Benefits) property in southern Chesapeake. The funding for this project was approved by the Corps on October 13, 1998. Additional funding was approved on August 28, 2008. The site was purchased by the Conservancy on December 17, 1998 and long-term protection is achieved through this ownership. Two adjacent properties (projects CH-6 and CH-8) were acquired in separate purchases, both of which involve significant wetland restoration acres.

A large ditch and road complex existed on the site draining nearly 12 acres of the forest immediately adjacent to the ditch. In the summer of 2000 the ditch was plugged in six locations initiating restoration of the drained forest area. Automatic recording shallow groundwater monitoring wells were installed in 2000 to monitor the hydrological restoration, which based upon the results to date has been very successful. Because success for this site is confined to hydrology and the site has exceeded the critical threshold for wetlands hydrology at each station in most years under a variety of climatic conditions (including very dry), the Conservancy will seek to close the monitoring aspect of this project in 2009. A delineation of the site will be confirmed by the Corps in 2009 to determine mitigation credits.

#### **CH-6 Northwest River (Hall)**

The purpose of this project is to conduct non-tidal wetland and upland buffer restoration and upland buffer preservation at the Northwest River (Hall) property in southern Chesapeake. The funding for this project was approved by the Corps on May 26, 1999.

Based upon soil sampling conducted prior to the wetland restoration activities, there is a slight ridge of approximately 5 acres that did not exhibit hydric soils criteria, but shallow groundwater wells indicate wetland hydrology is present. Thus, this area must be carefully evaluated during the final site delineation to confirm/determine the extent to which wetlands are established. Due to the overall success of the site in meeting wetland criteria in most years, the Conservancy will conduct a final delineation of the site to determine mitigation credits and request to close this project in 2009.

#### **CH-7 Nawney Creek (Knight)**

The purpose of this project is to conduct non-tidal wetland and upland buffer restoration at the Nawney Creek (Knight) property in Virginia Beach. The funding for this project was approved by the Corps on May 23, 2000. The site was purchased by the Conservancy on September 27, 2000, and long-term protection is achieved through this ownership.

Based upon site observations and the well data collected thus far there are portions of the site that fail to meet the Corps hydrology criteria in most years. These are primarily those areas that are adjacent to perimeter ditches or located at field crowns, both areas which tend to support non-hydrophytic herbaceous vegetation and comprise up to 50% of the property. There is obvious wetland development in the vicinity of interior ditches that were plugged and are at slightly lower elevations than field crowns as evidenced by prolonged standing water and the presence of a dominance of hydrophytes. Survival of planted seedlings is high and growth is good. Woody stem densities of 400 stems per acre or greater were recorded in most areas during the 2008 monitoring of the site. Although stem densities for the site are good, a high percentage of the sampling plots (~73%) failed to meet hydrophytic vegetation requirements. Well data from 2008 showed that only 20% of the wells displayed wetland hydrology. While corrective action of

hydrology through grading is a possibility, such activities have a high risk of failure and would be relatively expensive. In light of these facts, the Conservancy reduced the scope of the wetland restoration acres to approximately 8.0 acres with the remaining 10.0 acres as upland restoration. This site is on a post construction and mitigation monitoring plan that extends through 2012 with reports submitted to the Corps.

#### **CH-8 Northwest River (Su)**

The purpose of this project is to conduct non-tidal wetland restoration and upland buffer restoration and non-tidal wetland and upland buffer preservation at the Northwest River (Su) property in southern Chesapeake. The funding for this project was approved by the Corps on March 16, 2001. Additional funding for this project was approved on February 8, 2008. The site was purchased by the Conservancy on April 28, 2000, and long-term protection is achieved through this ownership. Two adjacent properties (projects CH-5 and CH-6) were acquired in separate purchases, together representing significant wetland restoration and preservation acres.

In 2008, a majority of the hydrological monitoring wells failed to read, and insufficient data to determine site hydrology exists. The Conservancy will replace/repair the wells at the site and collect hydrology data during the 2009 growing season. 2008 vegetation sampling data shows that only 47% of the site is meeting hydrophytic vegetation criteria. An analysis of the vegetation community and recommendations on corrective action will be completed by the Conservancy in 2009. Monitoring also showed that a majority of the site is meeting the woody stem density required by the site success criteria. Monitoring and observations of the vegetation development on the site indicate that Loblolly pine is colonizing in large numbers particularly in the drier areas of the site (~5 acres); however, the majority of other colonizing woody sapling species are native, wetland plants. An approximately 2.8-acre area has been invaded by cattail (*Typha latifolia*). This area is well contained by topography and has little threat of jeopardizing the rest of the restoration. At this point, monitoring of cattail stand size and locations will continue to determine if corrective action is necessary. If the cattail area increases, volunteer efforts to remove it may be explored. Generally, given the favorable hydrological and vegetation monitoring thus far, the Conservancy expects approximately 49.0 acres to continue to meet wetland criteria. This is the seventh year post construction and mitigation monitoring is scheduled through 2011 with reports submitted to the Corps.

#### **CH-9/LJ-4 Northwest River (Stephens)**

The purpose of this project is to conduct non-tidal wetland restoration and upland buffer restoration and non-tidal wetland and upland buffer preservation at the Northwest River (Stephens) property in Chesapeake. The funding for this project was approved by the Corps on July 17, 2002. The Conservancy proposed to restore wetlands and uplands through site modifications and to preserve wetlands and uplands. The site was purchased by the Conservancy on November 15, 2002, and long-term protection is achieved through this ownership.

Annual shallow groundwater monitoring indicates that much of the site exceeds the target threshold for hydrology under normal conditions, although well stations that are located in close proximity to unplugged perimeter ditches experience the least promising hydrology results. While this drainage was anticipated, continued monitoring is necessary to determine the extent of drainage that prevents wetland establishment. Even in the overall dry conditions of the area in 2008, a majority of the wells (87%) met wetland hydrology criteria. Survival of planted seedlings is high within much of the site and many species displayed fairly vigorous growth. Red maple and sweet gum are the dominant colonizing, volunteer woody species across the entire site. This

is most obvious at the north end of the restoration fields adjacent to a mature forest line and a large ditch, which the Conservancy was not permitted to block, where colonizing seedlings are out-competing planted seedlings. However, based upon the monitoring the majority of woody species that will comprise the dominant stratum of the site are native wetland plants. The 2007 and 2008 monitoring of the site identified two aggressive invasive species on the site. Purple loosestrife (*Lythrum salicaria*) and Chinese privet (*Ligustrum sinense*) are present in areas on the site. Corrective action through the use of volunteers to control these two species will be conducted in 2009. The Conservancy observed three structural failures at the northern edge of the field where ditch blockages placed in front of culverts are leaking, perhaps resulting in limited drainage of the field. The Conservancy proposes to conduct a further analysis of these areas in 2009 to see if corrective action is necessary. This is the fifth year post construction and mitigation monitoring is scheduled through 2013 with reports submitted to the Corps.

#### **CH-10 Northwest River (Powers)**

The purpose of this project is to conduct non-tidal wetland restoration and non-tidal wetland and upland buffer preservation at the Northwest River (Powers) property in Chesapeake. The initial funding for this project was approved by the Corps on March 7, 2003. The Conservancy requested additional funding for acquisition and restoration, which was authorized by the Corps on October 27, 2004. The site was purchased by the Conservancy on January 31, 2001 and the site has been designated as a Natural Area Preserve under the management of Department of Conservation and Recreation (DCR).

A closely spaced ditch network historically drained the agricultural fields on the site. In late 2004, the ditches in the agricultural fields were filled, the fields were graded to remove field crowns, and a perimeter berm was installed to prevent flooding adjacent properties. In early 2005, the restoration site was planted with 6,300 and 2,800 bare root tree and shrub seedlings respectively. Five automatic recording shallow groundwater wells were installed in 2005. The first year of hydrological monitoring indicated that only a portion of the site is meeting hydrological criteria under normal conditions; however, the extremely dry preceding conditions in 2006 and 2007 resulted in deeper groundwater tables. For this reason, continued monitoring will be needed to see if corrective action is required. Vegetation monitoring and site observations confirm that there is relatively high mortality of planted seedlings and moderate natural colonization of native wetland saplings. The results indicate that much of the project area is failing to meet planted seedling survival objectives while meeting stem density requirements when natural colonizing seedlings are included. The site is scheduled for monitoring in 2009. 2008 was the fourth year post construction and mitigation monitoring is scheduled through 2014 with reports submitted to the Corps.

#### **CH-11 Nawney Creek (Fentress)**

The purpose of this project is to conduct non-tidal wetland and upland buffer restoration at the Nawney Creek (Fentress) property in Virginia Beach. The funding for this project was approved by the Corps on December 19, 2003. The site was purchased by the Conservancy on December 13, 2003, and long-term protection is achieved through this ownership. 2009 is the fourth year post construction and mitigation monitoring is scheduled through 2013 with reports submitted to the Corps.

Annual hydrology results thus far indicate that much of the site is meeting the hydrologic criteria, and in fact, there are large areas of the site where water ponds for a significant duration in most years. During the dry conditions of 2008, all of the recording wells were still meeting the



requirements for wetland hydrology. Vegetation monitoring is showing a low percentage (33% of the entire site based on vegetation sampling plots) of hydrophytic vegetation communities throughout most of the site, indicating that although wetland hydrology is present, hydrophytic vegetation is not establishing on the site. The Conservancy will conduct an analysis of the vegetation communities in 2009 and determine if corrective action is necessary. The 2008 monitoring plot analysis indicates that while planted tree survival is low, natural recruitment is helping the site to meet the woody stem per acre success criteria for the majority of the site. Seedling mortality was presumably caused by long-duration flooding in some areas of the site and intense herbaceous vegetation competition. This is the fourth year post construction and mitigation monitoring is scheduled through 2013 with reports submitted to the Corps.

#### **CB-5/CH-12 Eastern Virginia Phragmites Control**

A summary of the project details is included under the Chesapeake Bay Basin.

#### **CH-13 Northwest River (SP Forests LLC)**

The purpose of this project is to conduct non-tidal wetland restoration and preservation at the Northwest River (SP Forests, LLC) property in the City of Chesapeake. The funding for this project was approved by the Corps on February 2, 2006. An amended approval letter was issued by Corps on February 22, 2007. The Conservancy proposed to restore drained forest land by plugging a large ditch system and to preserve wetlands on 150 acres located within the 3,800-acre parcel. The site was purchased by the Virginia Department of Game and Inland Fisheries (DGIF) on September 13, 2006, and is managed as the Cavalier Wildlife Management Area.

This project is in the planning/permitting phases and has not been constructed.

#### **CH-14 Raccoon Creek Pinelands site**

The purpose of this project is to conduct stream and buffer preservation on the Raccoon Creek Pinelands site in Sussex County, Virginia. The funding for this project was approved by the Corps on February 8, 2008. The long term protection of this site will be achieved through a conservation easement on the property. The Conservancy is currently negotiating the terms of this easement over this 177-acre property with the intended new landowner. This site will adjoin another 1,400-acre conservation easement that was donated to the Conservancy in December 2007. A stream and wetland delineation will be conducted to determine stream length and wetland extent. Buffers will be at least 100 feet for both stream and wetland features. The area outside of the buffers will be considered as “additional protected acreage.”

The 177-acre undeveloped property is situated on rolling, forested land and is dominated by loblolly pine stands aged 5-20 yrs. The property is bounded to the north by Raccoon Creek, which is a major tributary to the Nottoway River. The section of Raccoon Creek fronting the property is flooded by a beaver impoundment. An un-named tributary to Raccoon Creek serves as the western boundary to the tract. The stream channel appears to be in stable condition and requires no restoration or enhancement actions. The floodplain area flanking the tributary supports pines and hardwoods with an understory dominated by cane (*Arundinaria tecta*) and shrubs. The land to the west of this tributary is planted in longleaf pine (*Pinus palustris*). Another un-named tributary flanked by hardwoods and cane is located near the eastern boundary of the subject property. Headwaters of the stream are within the property, along its southern portion. The stream channel, while slightly more incised, appears stable.

Mitigation activities at the site include the preservation of approximately 2,500 linear feet of the right bank of the western tributary, 1,000 linear feet along the south side of Raccoon Creek and 1,400 feet on both banks of the eastern unnamed tributary to Raccoon Creek. Banks will be protected with 100 feet of existing wooded buffer. Buffer width around wetlands will be 100 feet. Wetland distribution will be based on a wetland delineation that will be conducted as part of this project. Using USGS topographic and National Wetland Inventory (NWI) data, the estimated acreage for the proposed no-touch riparian buffer is approximately 16.1 acres. The project will also include 11.6 acres of buffered wetlands. Although the entire 177-acre parcel is protected by the easement, for the purposes of reporting, the additional 149 acres is considered "Additional Protected Acreage."

The Conservancy is currently in negotiations with the landowner and anticipates closing this project in 2009.

## **Lower James River Basin**

The Lower James River Basin is comprised of two HUCs (02080208 and 02080206) encompassing the portion of the James River from Richmond east to Norfolk. This basin is located within both the Conservancy's Mid-Atlantic Coastal Plain and the Chesapeake Bay Lowlands Ecoregions and is the focal area of several conservation groups, including the James River Association and the Chesapeake Bay Foundation, as well as efforts of federal, state and local governments. Conservation targets include tidal freshwater and brackish marshes, Chesapeake Bay lowlands estuarine and stream systems, waterfowl and colonial nesting waterbirds, blue crabs, and spawning habitat for striped bass, shad, herring, and yellow perch.

The projects discussed in this section serve as mitigation for permitted impacts within the Lower James River Basin for which the Fund was used as compensatory mitigation. All approved projects through 2008 are listed on the below tables. Complete project descriptions for projects approved prior to 2008 may be found in the 2007 Annual Report. Updates are given for each project as applicable. Complete descriptions of projects approved during 2008 are provided below.

Due to historical hydrology modifications, one of the non-tidal projects (CH-9/LJ-4) mitigates for impacts within both the Lower James River Basin and the Chowan River Basin. The total funds authorized by the Corps and crediting value for this project have been appropriately divided between the two basins.

The following table provides a summary of projects for which funds were approved in the Lower James River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. See project summaries for more information.

**Table 13: Approved Project Summary for the Lower James River Basin.**

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects (\$)	Tidal Wetland Projects (\$)	Stream Projects (\$)
LJ-1	Chickahominy River (Walters)	M	4/6/00	401,105	0	0
LJ-2	Chickahominy River (Cheswick Park)	M	9/10/01	0	0	15,000
LJ-3	VMRC Oyster Reef	M	7/12/02	0	50,650	0
CH-9 / LJ-4	Northwest River (Stephens)	M	7/17/02	625,000	0	0
LJ-5*	Isle of Wight site	A	5/30/03	2,500	0	0
LJ-6	Chickahominy River (Rogers-Chenault)	M	12/14/04	149,450	0	0
LJ-7	Great Dismal Swamp NW Section (Jacobson et al.)	A	8/3/06	4,000	0	0
		AC, C	12/7/06	1,575,025	0	0
LJ-8	Lower Chickahominy River (Church Point Farm, LLC)	AC, M	12/15/06	49,786	0	0
LJ-9	James River site	M	12/15/06	0	0	319,032
LJ-10	James River site #2	F,C	8/10/07	21,000	0	21,000
		F	11/16/07	1,050	0	1,050
		C	2/8/08	6,500	0	6,500
		AC, M	6/27/08	478,700	38,000	478,700
LJ-11	Chickahominy River site	A	8/28/08	5,000	0	5,000
LJ-12	James River site #3	AC	11/2/08	82,000	0	738,000
<b>Totals</b>				<b>3,401,116</b>	<b>88,650</b>	<b>1,584,282</b>
<b>Grand Total</b>				<b>5,074,048</b>		
* Project is no longer pursued due to landowner constraints or the results of feasibility studies.						
M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey						

The following tables summarize the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal and tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Lower James River Basin. In addition, the tables provide the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The tables do not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

**Table 14: Non-Tidal Wetland Project Summary for the Lower James River Basin.**

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed	Additional Protected Acreage
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres			
LJ-1	M	20.00	198.00		23.00	32.78	273.78	42.97	
LJ-4/CH--9	M,CA	61.00	112.10		10.00	2.80	185.90	73.02	
LJ-6	C		64.70			29.60	94.30	7.95	
LJ-7	P	30.00	23.50	2.50	24.00	4.00	84.00	34.98	
LJ-8	PC		383.00			47.30	430.30	40.67	514.00
LJ-10	P, LP	50.00	15.00				65.00	51.50	172.00
LJ-12	LP		15.00			26.00	41.00	2.80	53.00
Sub-totals		161.00	811.30	2.50	57.00	142.48	1174.28	253.89	739.00
Total Acres of Non-Tidal Impacts70.32									
Total Mitigation Liability132.69									
Total Proposed Credits253.89									
Percent of Wetland Acreage Replacement229.0									
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress					
P - Planning / permitting				M - Mitigation monitoring					
D - Pending delineation / assessment				CA - Corrective actions necessary					
C - Closed				PC - Pending project closure					

**Table 15: Tidal Wetland Project Summary for the Lower James River Basin.**

Project Information		Tidal Marsh	SAV	Oyster	Tidal	Tidal	Mitigation	Proposed
Project ID	Status	Rest	Rest	Rest	Enh	Pres	Acres	Credits
LJ-3	C			0.34			0.34	0.07
LJ-10	P, LP	20.00					20.00	20.00
Acre Sub-totals		20.00	0.00	0.34	0.00	0.00	20.34	20.07
Credit Sub-totals		20.00	0.00	0.07	0.00	0.00		
Total Acres of Tidal Impacts					0.43			
Total Mitigation Liability					0.43			
Total Proposed Credits					20.07			
Percent of Wetland Acreage Replacement					4692.6			
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress				
P - Planning / permitting				M - Mitigation monitoring				
D - Pending delineation / assessment				CA - Corrective actions necessary				
C - Closed				PC - Pending project closure				

As noted in Section II, the Fund has been used to mitigate for 22,948 linear feet of permitted stream impacts in the Lower James River Basin through 2008. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Lower James River Basin. Through

2008, all stream projects have been funded with pre-USM funds.

**Table 16: Stream Project Summary for the Lower James River Basin.**

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
LJ-2	C	0.04	104	Stabilized a headcut with a series of step pools serving as grade control within an unnamed tributary to Upham Brook. Stream banks were shaped along 104 lf of channel to provide additional floodplain area.	0.00
LJ-9	LP, P	3.20	967	Priority 1 relocation of 967 lf of an unnamed tributary to Chisel Run. The relocated channel buffered by an existing mature forest ranging from 50 to 260 feet along each bank.	0.00
LJ-10*	P, LP	86.00	10,950	Removal of a dam on Lake Charles fed by several tributary streams, primarily Kimages Creek. Restoration will be accomplished through the removal of a portion of the existing dam where it intersects the preexisting stream channel and the planting of the wetlands created by this dam breach.	Reported under non-tidal wetland summary
LJ-12*	LP	29.50	6,720	Two hundred foot buffers will be preserved on both wetland and stream systems along the James River, two unnamed tributaries that flow directly into the James River, and 15 acres of PFO wetlands.	Reported under non-tidal wetland summary
Totals		118.74	18,741		
ac - acre				D - Pending delineation / assessment	
lf - linear feet				I - Restoration / Enhancement activities in progress	
LP - Pending finalization of land protection				M - Mitigation monitoring	
P - Planning / permitting				CA - Corrective actions necessary	
C - Closed				PC - Pending project closure	
* Project includes wetland mitigation.					
Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).					
Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").					

**Table 17: Closed Projects for the Lower James River Basin.**

Project ID	Corps Approval Date	Corps Closure Date	Amount Approved	Amount Unallocated	Non-tidal Wetland Credits	Tidal Wetland Credits	Stream Resotration
LJ-2	9/10/2001	7/27/2007	15,000	0	0	0	104
LJ-3	7/12/2002	7/27/2007	50,650	0	0	0.07	0
LJ-5	5/30/2003	7/27/2007	2,500	1,000	0	0	0
LJ-6	12/14/2004	7/5/2008	149,500	93,043	7.95	0	0
<b>Totals:</b>			<b>217,650</b>	<b>94,043</b>	<b>7.95</b>	<b>0.07</b>	<b>104</b>

### Project Summaries

The following section provides a summary of each project located within the Lower James River Basin for which the Corps has authorized funds through 2008. Details of projects approved before 2008 may be found in the 2007 Annual Report.

**LJ-1 Chickahominy River (Walters)**

Please reference the 2007 Annual Report for complete description.

The purpose of this project is to conduct non-tidal wetland restoration and upland buffer restoration and non-tidal wetland and upland buffer preservation at the Chickahominy River (Walters) property near Midlothian. The funding for this project was approved by the Corps on April 6, 2000. The site was purchased by the Conservancy on July 13, 2000, which provides long-term protection of the property.

The objectives of this project are to restore 20 acres of forested wetland and restore 23 acres of upland buffer in addition to preservation of 198 acres of wetland and 32.8 acres of upland.

2008 Update: The 2008 hydrological monitoring of the site showed wetland hydrology was present in all the wells that were able to be sampled. A majority of the wells were not able to be read in 2008. The Conservancy will repair/replace the wells and collect the recorded data during the 2009 growing season to augment the 2008 data. Considerable natural colonization by volunteer woody species was both noted during field observations and supported by monitoring data. Density of seedlings estimated in vegetation plots exceeds 400 stems per acre with most abundant species including red maple, sweet gum, bald cypress and willow oak. Assessment of herbaceous cover in randomly located subplots indicated a predominance of hydrophytic vegetation. Investigations of soils, hydrology and vegetation in the wetland restoration areas at the property demonstrate that a forested wetland community is becoming established in those areas. However, certain portions of the site are affected by invasive species and in 2003 and 2004 several different woody invasive species (Tree of heaven and Multiflora rose) were located, cut and sprayed with herbicide. This corrective action has largely contained the woody invasive problem, but small areas of Tree of heaven and Multiflora rose still persist as well as the documented presence of Japanese honeysuckle (*Lonicera japonica*) in upland portions of the site and at field edges. The Conservancy will continue to monitor the status of the invasives on the property and will implement corrective action if necessary. This is the seventh year post construction and mitigation monitoring is scheduled through 2011 with reports submitted to the Corps.

**LJ-2 Chickahominy River (Cheswick Park)**

This project was officially closed in 2007. Please reference the 2007 Annual Report for details on this project.

**LJ-3 VMRC Oyster Reef**

This project was officially closed in 2007. Please reference the 2007 Annual Report for details on this project.

**CH-9/LJ-4 Northwest River (Stephens)**

The Stephens property (detailed under the Chowan River Basin) is also included as part of Lower James River Basin due to the split drainage.

**LJ-5 Isle of Wight Cat Ponds**

This project was officially closed in 2007. Please reference the 2007 Annual Report for details

on this project.

**LJ-6 Chickahominy River (Rogers-Chenault)**

Please refer to the 2007 Annual report for complete description.

The property is 94.3 acres and consists of a 14.7-acre lake from previous sand mining operations, with the remainder in a mixture of uplands and forested wetlands. The landowner conducted a delineation of surface waters for this site that was confirmed by Corps in 2002 as supporting information for a wetland mitigation feasibility report. Based on the jurisdictional determination, approximately 64.7 acres of wetlands and 29.6 acres of upland buffer are protected at the site. During the proposal process, wetland creation at the site was considered. However, once the site was more thoroughly investigated the Conservancy strongly recommended against pursuing wetland creation at the site due to high costs and the inherent risks of failure. In addition, other projects in the Lower James River Basin have been secured that more adequately address wetland impacts. The Conservancy requested the project be closed in 2008. The Corps officially closed this project on August 5, 2008 and assigned 7.95 credits to mitigate for the non-tidal wetland impacts from this site. Funds in the amount of \$93,043.00 were unallocated and returned to the general balance of the Fund.

**LJ-7 Great Dismal Swamp Northwest Section (Jacobson et al.)**

Please refer to the 2007 Annual Report for complete description.

The purpose of this project is to conduct non-tidal wetland restoration, enhancement and upland buffer restoration and non-tidal wetland and upland buffer preservation at this property in Chesapeake.

The property is 84 acres and is located in the western branch area of Chesapeake. The property contains approximately 54 acres of cropland, 22 acres of forested wetlands and several acres of drained forested wetland and upland forest. In the past a ditch system was installed on this site to lower the ground water table to make farming more successful. The natural community type for restoration is Non-riverine wet hardwood forest and Mesic mixed hardwood forest and the primary functions to be restored include wildlife habitat and water quality enhancement. In the Conservancy's proposal to support planning and permitting for the site a credit summary based upon existing site knowledge was included. It should be noted that these proposed figures will likely change as a result of further planning efforts at the site, but should not deviate significantly.

A shallow groundwater table study was conducted at the site during the 2007 growing season. The Conservancy anticipates that the mitigation plan will be completed in 2009. Following the completion of the plan, the Conservancy will submit a third request for funding to the Corps to complete the mitigation activities. The Conservancy anticipates that implementation of the mitigation plan will also be completed in 2009.

**LJ-8 Lower Chickahominy River (Church Point Farm, LLC)**

Please refer to the 2007 Annual Report for complete description.

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the Church Point Farm property in Charles City County.

The surface water delineation assessment was completed in 2008, indicating that 368.61 acres of non-tidal wetlands and 11.94 acres of tidal wetlands have been preserved. Once the Corps



confirms the delineation, the Conservancy anticipates closing this project in 2009.

#### **LJ-9 James River site**

Please refer to the 2007 Annual Report for a detailed description of this project.

The purpose of this project is to conduct stream restoration activities at a property in James City County (JCC). The County identified this site and approached the Conservancy to complete the restoration activities through the Fund. The funding for this project was approved by the Corps on December 15, 2006. The Conservancy proposed to conduct Priority 1 relocation along approximately 967 linear feet of an unnamed tributary to Chisel Run. The site will be protected and managed through a Corps approved Memorandum of Agreement (MOA) between JCC and the Commonwealth of Virginia. The MOA is currently under development.

The Corps 404 and DEQ 401 permits have already been issued for the site activities. Once the MOA has been finalized, the Conservancy will finalize the planning process to implement this project.

#### **LJ-10 James River site #2**

Please refer to the 2007 Annual Report for a more detailed description of this project.

The purpose of this project is to provide restoration of the natural stream channel and wetland habitats resulting from the removal of the dam at the mouth of Kimages Creek on the VCU Rice Center property. The property is located along the James River in Charles City County. Initial funding to complete a feasibility study was approved by the Corps on August 10, 2007 and subsequently on November 16, 2007. A second funding request for the project for design costs for the restoration was approved by the Corps on February 8, 2008. A third funding request for the project to complete acquisition, final design and implementation, and monitoring of the mitigation was approved by the Corps on June 27, 2008. The long term protection of the site will be accomplished through the purchase of a conservation easement by the Conservancy. Long-term protection will be achieved through the monitoring and enforcement of the easement by the Conservancy.

Additional wetlands may exist or be created in areas above the influence of daily lunar tides that receive adequate hydrology. It is expected that approximately 20.0 acres will be subject to tidal influence and 50.0 acres will be restored to non-tidal wetlands.

Restoration of the site will be accomplished through the removal of a portion of the existing dam where it intersects the preexisting stream channel and the planting of the wetlands created by this dam breach. Approximately 4800 cubic yards of earth will be removed from the dam, in a phased draw down approach, creating a 180 foot bottom width gap in the existing dam. The gap will be graded to reestablish the connectivity between Kimages Creek and the James River. Following construction and the associated drawn down of Lake Charles, the site will be planted with erosion control and wetland herbaceous seed mixes to establish soil stability and control invasive species recruitment. Virginia Commonwealth University will then establish tree planting test plots in the tidal and non-tidal areas to determine the species composition and planting practices most suitable for the area. Treatments include planting densities of mixed trees and shrubs, use of nurse plants, planting shrubs in groups to simulate natural clumping and pioneer species recruitment/establishment. Information gathered from the test plots will be used to develop a planting plan that will be implemented the following year. Pioneer treatment areas that do not

meet program goals by year 5 will be planted to the appropriate woody community type. All planted areas will be designed to maintain a minimum 400 woody stem/acre density. Monitoring of the site hydrology and woody plant community success will begin the year after completion of all phases of planting.

The Conservancy anticipates completing the restoration of this site in 2009.

#### **LJ-11 Chickahominy River site**

The purpose of this project is to conduct a non-tidal wetland and stream preservation project on two adjacent properties in Henrico and New Kent Counties along the Chickahominy River in Virginia. The project will provide approximately 305 acres of preservation, and include 140 acres of non-tidal wetlands and 11,800 linear feet of stream. The site is located downstream of LJ-1 (restoration) and upstream of LJ-6 (preservation). The funding for an appraisal of the two properties to determine fair market value of the easements was approved by the Corps on August 28, 2008. The appraisal will be completed in 2009 and used to negotiate the purchase of the conservation easements. Long-term protection will be provided by the conservation easements to be held by the Conservancy.

#### **LJ-12 James River site #3**

The purpose of this project is to conduct a stream, wetland and riparian buffer preservation project at Blair's Wharf on the James River, in Prince George County, Virginia. The landowner sold the 125-acre tract to The Conservation Fund, who will in turn sell it to the US Fish and Wildlife Service for inclusion in the James River National Wildlife Refuge (JRNWR). Funding to assist the Fish and Wildlife Service with the purchase of the property was approved by the Corps on November 2, 2008.

This 125-acre property contains approximately 3,365' of shoreline on the James River and is surrounded by the 4,200-acre James River National Wildlife Refuge (JRNWR). The property is vegetated primarily in hardwoods and pines, providing excellent habitat for bald eagles and other Audubon priority bird species. The JRNWR was established in 1991 under the Endangered Species Act to protect nationally significant habitat for bald eagles. The Refuge and Blair's Wharf shoreline contribute to one of the east coast's premier bald eagle roosting sites. In 2006, Refuge staff recorded an average of 38 eagles observed per visit during its bald eagle surveys and there was an average of 28 birds per visit in 2007. Currently there are three active nests on the Refuge and one active nest on the Blair's Wharf property. Both Blair's Wharf and the Refuge are fully contained within the 47,000 hectares of Audubon's Lower James River IBA, a site which covers approximately 20 river miles of the James.

The property provides approximately 6,720 linear feet of high quality vegetated riparian buffer along the James River (3,365') and along two unnamed tributaries (3,203' and 152') that flow directly into the James River. In addition, there are approximately 15 acres of PFO wetlands on the property. Two hundred foot buffers will be established and credited for both wetland and stream systems. Nearly 30 acres will be protected as stream mitigation acreage and over 40 acres will be protected as wetland and wetland buffer mitigation acreage.

The Conservancy anticipates that the US Fish and Wildlife Service will complete the purchase of the property in 2009. A confirmation by the Army Corps of Engineers of a delineation of the site to determine mitigation credits will also be completed in 2009. The Conservancy anticipates requesting official closure of the site in 2009.

## Middle James River Basin

The Middle James River Basin is comprised of four HUCs (02080203, 02080204, 02080205 and 02080207) encompassing the portion of the James River from the Blue Ridge Parkway east to Richmond. This basin is located within the Conservancy's Piedmont Ecoregion. Conservation targets include small, Piedmont streams and tributaries, James River spiny mussel, isolated wetlands, and working and old growth forests.

The projects discussed in this section serve as mitigation for permitted impacts within the Middle James River Basin for which the Fund was used as compensatory mitigation. All approved projects through 2008 are listed on the below tables. Complete project descriptions for projects approved prior to 2008 may be found in the 2007 Annual Report. Updates are given for each project as applicable. Complete descriptions of projects approved during 2008 are provided below.

The following table provides a summary of projects for which funds were approved in the Middle James River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type.

**Table 18: Approved Project Summary for the Middle James River Basin.**

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects (\$)	Tidal Wetland Projects (\$)	Stream Projects (\$)
MJ-1	Rivanna River (Lamb)	M	4/10/01	366,450	0	0
		M	10/20/03	0	0	385,000
		M	11/19/07	0	0	336,550
MJ-2*	Rivanna Watershed site	A	9/2/05	0	0	1,500
MJ-3	Beaumont (Sisters of the Blessed Sacrament)	A	4/23/06	3,750	0	3,750
		M	12/15/06	110,500	0	110,500
		BS	12/19/06	12,500	0	12,500
MJ-4	Southern Shenandoah (Bennett)	M	8/10/07	0	0	12,608
MJ-5	Rivanna Watershed (Meadow Creek site 1)	M	11/16/07	0	0	9,994
MJ-6	Rivanna Watershed (Meadow Creek site 2)	M	11/16/07	0	0	1,341,562
MJ-7	Rivanna Watershed (Meadow Creek site 3)	M	11/16/07	0	0	1,215,737
MJ-8	Rivanna Watershed (Meadow Creek site 4)	M	11/16/07	0	0	625,622
MJ-9	Southern Shenandoah site	M	2/8/08	0	0	40,807
MJ-10	Rivanna Watershed (Meadow Creek Area 3)	M	12/16/08	0	0	490,975
<b>Totals</b>				<b>493,200</b>	<b>0</b>	<b>4,587,105</b>
<b>Grand Total</b>				<b>5,080,305</b>		
* Project is no longer pursued due to landowner constraints or the results of feasibility studies.						
M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey						

The following table summarizes the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Middle James River Basin. In addition, the table provides the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

**Table 19: Non-Tidal Wetland Project Summary for the Middle James River Basin.**

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed	Additional Protected Acreage
		Rest/Cr	Pres	Enh	Rest	Pres			
*MJ-1	M, CA	20.00			26.00		46.00	21.73	44.32
*MJ-3	D, PC		36.00			12.50	48.50	4.23	469.00
Sub-totals		20.00	36.00	0.00	26.00	12.50	94.50	25.96	513.32
Total Acres of Non-Tidal Impacts									
					20.05				
Total Mitigation Liability					36.99				
Total Proposed Credits					25.96				
Percent of Wetland Acreage Replacement					99.7				
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress					
P - Planning / permitting				M - Mitigation monitoring					
D - Pending delineation / assessment				CA - Corrective actions necessary					
				PC - Pending project closure					
* Project includes stream or tidal wetland mitigation.									
Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).									

As noted in Section II, the Fund has been used to mitigate for 29,312 linear feet of permitted stream impacts in the Middle James River Basin through 2008. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Middle James River Basin. This table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

**Table 20: Stream Project Summary for the Middle James River Basin.**

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
MJ-1*	M, CA	64.18	9,239	Priority 1 relocation of 1,866 lf of an unnamed tributary and bank shaping to provide floodplain area along 1,373 lf of a second unnamed tributary to the North Fork of the Rivanna River. Each bank of both tributaries planted with a 200 foot wide wooded buffer. Riparian buffer planting (250 feet wide) along a total of 6,000 lf of the North Fork (right bank) and South Fork (left bank) of the Rivanna River.	Reported under the wetlands summary
MJ-3*	D	482.50	37,820	Riparian buffer preservation of 8,280 lf along the right bank of the James River with an existing mature wooded buffer ranging from 100 to 300 feet. Stream system preservation of 12,200 lf of Deep Creek, with an existing mature wooded buffer 300 feet wide along each bank (except for a 50 foot wide buffer along the left bank for 2,500 lf). Stream system preservation of 9,420 lf of headwater tributaries to the James River with an existing mature wooded buffer of 200 feet along each bank. Stream system preservation of 7,920 lf of a headwater tributary to the James River with an existing mature wooded buffer of 300 feet along each bank.	Reported under the wetlands summary
MJ-4	D	23.88	5,700	Riparian buffer preservation along 1,000 lf of the left bank of the Moorman's River with an existing mature wooded buffer width of 200 feet. Stream system preservation along both banks of 2,800 lf of Slate Branch with an existing mature wooded buffer width of 200 feet. Riparian buffer preservation along 1,000 lf of the right bank with an existing mature wooded buffer width of 200 feet. Stream system preservation along both banks of 900 lf of two unnamed tributaries to Slate Branch with an existing mature wooded buffer width of 200 feet.	58.12
MJ-5	LP, P	12.5	N/A	Provides mature riparian buffer preservation adjacent to the MJ-7 project site.	
MJ-6	LP, P	28.1	3,185	Stream channel restoration and bank stabilization along 3,185 lf of Meadow Creek.	
MJ-7	LP, P	17.0	2,497	Stream channel restoration, bank stabilization and riparian buffer establishment along 2,497 lf of Meadow Creek.	
MJ-8	LP, P	5.0	1,270	Stream channel restoration, bank stabilization and riparian buffer establishment along 1,270 lf of Meadow Creek.	
MJ-9	LP, P	24.2	5,500	Stream and riparian buffer preservation and riparian buffer enhancement along headwater tributaries of the Lynch River and North Fork Rivanna River. Preservation of approximately 5,500 lf of both banks of two headwater tributaries of Haneytown Creek. Enhancement of 7 acres of riparian buffer along 1,500 linear feet of one bank and 1,000 linear feet of both banks of headwater tributaries of Haneytown Creek.	171.80
MJ-10	LP, P	8.6	1,500	Stream and buffer enhancement and buffer preservation on 1,500 linear feet of Meadow Creek.	
Totals		665.96	66,711	229.92	
Ac -acre				D - Pending delineation / assessment	
Lf - linear feet				I - Restoration / Enhancement activities in progress	
LP - Pending finalization of land protection				M - Mitigation monitoring	
P - Planning / permitting				CA - Corrective actions necessary	
* Project includes wetland mitigation.				PC - Pending project closure	
Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).					
Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").					

**Table 21: Closed Projects Summary for the Middle James River Basin.**

Project ID	Corps Approval Date	Corps Closure Date	Amount Approved	Amount Unallocated	Non-tidal Wetland Credits	Tidal Wetland Credits	Stream Activity	
							Buffer preservation	Livestock exclusion
MJ-2	9/2/2005	7/27/2007	1,500	0	0	0	0	0
<b>Totals:</b>			<b>1,500</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**Project Summaries**

The following section provides a detailed summary of each project located within the Middle James River Basin for which the Corps has authorized funds approved in 2008. 2008 updates to other projects are also included.

**MJ-1 Rivanna River (Lamb)**

The purpose of this project is to conduct non-tidal wetland and upland buffer restoration, stream restoration and enhancement, and riparian buffer planting activities at the Lamb property (also known as the Forks of the Rivanna project) in Albemarle County.

***Wetland Summary***

A depressional area located in the center of the fields was historically ditched and tile drained to convert it to agriculture. Based on landscape setting, hydrology, and analyses of vegetation in surrounding areas, the appropriate ecological community group to target for restoration of the agricultural fields on the site consists of Piedmont/Mountain Bottomland Forests. The objective of the wetland project was to restore a mixture of emergent and forested wetlands (20 acres) and an upland buffer (26 acres).

The invasive species Johnson grass (*Sorghum halepense*) gained dominance in portions of the upland buffer for the wetland restoration area as well as in other much larger portions of the site and a mechanical/chemical control effort began in 2006 and continued through 2008. In 2008 a pre-emergent herbicide was applied to the Johnson grass areas of the site and a crop was placed on the area to inhibit the continued growth of the Johnson grass. The Conservancy plans to plant saplings in Johnson grass control areas of the wetland and the buffer in 2009 to meet success criteria for the site. Continued monitoring and control of the Johnson grass will be done and corrective action will be performed if necessary.

***Stream Summary***

In the summer of 2005, the Conservancy conducted stream restoration and enhancement activities at the site including the Priority 1 relocation of an unnamed tributary to the North Fork of the Rivanna River. The relocation of the tributary involved the excavation of 1,866 linear feet of a new stable channel in the floodplain to the west of the existing degraded channel. The new channel was stabilized with instream rock, log structures and rootwads along the banks. A series of step-pool structures were installed at the downstream section of the channel to meet the elevation of a second tributary at the site. The banks of this highly incised second tributary were graded and shaped along 1,373 linear feet of channel to create a new floodplain within the channel. Instream structures were also installed within this reach to provide channel stability. The restoration activities were completed in September 2005. The channel banks and benches along both tributaries were planted with live stakes in March 2006. Minor bank repairs and minor repairs to one cross vane to redirect the flow over the invert were completed in the spring

of 2007.

Stream monitoring events are scheduled for monitoring years 1, 2, 3, 5, 7, and 10 with reports submitted to the Corps. The third year geomorphologic monitoring event was completed in 2008. The results of the monitoring indicated that the system is stable and has not departed significantly from the as-built conditions. One riffle has downcut slightly since a high flow event associated with Hurricane Rita that occurred approximately one month after construction in 2005. The material from this riffle was pushed downstream into the run/pool. However, this riffle appears to be stable and the downcutting has not affected the upstream reach. Repair on this feature is not recommended at this time. In addition, cattails have invaded the restored stream channel and are causing retention of excess fine-grained particles and siltation within pools and riffles. The cattails do not appear to be affecting overall channel stability or habitat at this time; however, in some areas the degree of obstruction in the channel causes less than bankfull flows to leave the channel, potentially compromising the stability of those sections. Since 2006, the Conservancy has implemented efforts to remove cattails from the stream and this will continue until the species is managed. Planting the riparian buffer should also help with management of this species.

The Conservancy initiated an eradication program for the Johnson grass in the spring of 2006 which continued through 2008. The Conservancy will plant 200 foot wide buffers along each bank of the 3,239 linear feet of restored or enhanced channels and replant the buffer areas along the North and South forks of the Rivanna River in 2009. In addition, several hundred linear feet of the tributary upstream of the Priority 1 relocation will be preserved, pending the finalization of the project. This section of the tributary is located within a mature hardwood forest.

#### **MJ-2 Rivanna Watershed site**

This project was officially closed in 2007. Please reference the 2007 Annual Report for details on this project.

#### **MJ-3 Beaumont (Sisters of the Blessed Sacrament)**

The purpose of this project is to conduct open water/wetland and associated upland buffer preservation and stream and the associated upland riparian buffer preservation at the Beaumont property (also known as Belmead) located along the James River in Powhatan County.

This project will preserve an estimated 37,820 linear feet of stream channel (including sections of the James River, Deep Creek, and several headwater tributaries) with a protected mature forested upland riparian buffer ranging from 100 to 300 feet along the majority of the banks. Of this linear footage, both banks of approximately 29,540 linear feet of channel are located on the property and will be fully protected. The project will also preserve an estimated 48.5 acres of open water/wetlands and additional forested upland buffers. A surface water delineation to determine mitigation credit was completed on the site in 2008 and is expected to be conformed by the Corps in 2009. The Conservancy will request closure of the project in 2009, once the delineation is confirmed.

#### **MJ-4 Southern Shenandoah (Bennett)**

Please refer to the 2007 Annual Report for a complete description of this project.

The purpose of this project is to conduct open stream system preservation and associated upland riparian buffer preservation on the Moorman's River and its tributary, Slate Branch (and

associated unnamed tributaries) at the Bennett property in Albemarle County.

Following completion of surface water delineation, the Conservancy anticipates closing this project in 2009.

#### **MJ-5 Rivanna Watershed (Meadow Creek site 1)**

The purpose of the MJ-5, MJ-6, MJ-7, MJ-8, and MJ-10 projects is to conduct stream restoration activities on five adjacent sites along Meadow Creek in the City of Charlottesville. Each site will be placed under easement or ownership by the Conservancy to secure the long term protection of each property. The initial funding for MJ-5, MJ-6, MJ-7, and MJ-8 was approved by the Corps on November 16, 2007, and initial funding for MJ-10 was approved by the Corps on December 16, 2008.

These properties lie within the Rivanna River watershed which is identified as one of the five best examples of high quality Piedmont river systems remaining in Virginia. The Rivanna Watershed Conservation Action Plan has identified increased sedimentation, due in part to streambank erosion and the lack of forested buffers in riparian areas, as the greatest current threat to streams and rivers in the watershed. To address this threat, the Conservancy is actively seeking stream restoration projects in the Rivanna watershed, and approached the City of Charlottesville to inquire about opportunities for stream restoration that the City had identified as part of their Water Quality Management Study. This study identified sediment as a water quality concern and stated that “streambank erosion is likely the most significant source of sediment in Meadow Creek and its tributaries.” One of the recommendations of the study was to evaluate stream stabilization and restoration projects in the Meadow Creek watershed. Albemarle County also conducted a stream assessment and identified the need for restoration of Meadow Creek adjacent to these properties.

Meadow Creek appears to have been relocated and channelized. In fact, the Rivanna Sewer and Water Authority (RSWA) provided a map from the 1950s showing the location of the channel located southeast of the current location, through the center of the valley. The original location of the channel was likely through the current location of the existing wetlands located along the southeastern property boundary.

The reach is incised with high banks with severe areas of bank erosion. The incision is likely contributed primarily to the urban nature of the area and past channel alterations. The stream is not able to access the floodplain during bankfull events, leading to additional incision and bank erosion. There are areas of significant aggradation and degradation within the channel, particularly moving downstream, contributing to a lack of appropriate pool-riffle complexes and detrital storage crucial for aquatic species. The stream has downcut to bedrock shelves in several areas, particularly in the upstream section.

The existing riparian buffer consists primarily of forest (some areas sparsely wooded) with areas of shrubs and grasses, and forested and scrub shrub wetlands. This existing buffer extends along both banks of the creek to the property boundary. Many of the trees located immediately along the banks are in danger of falling into the channel. There are many areas within the buffer where the forest can be enhanced with additional plantings.

The Conservancy plans to conduct stream restoration, enhancement, and riparian buffer enhancement and preservation along 8,452 lf of Meadow Creek. Once the protection methods are completed, the Conservancy will finalize the restoration plans and permitting details for these



sites, all of which are expected to occur in 2009.

**MJ-6 Rivanna Watershed (Meadow Creek site 2)**

Project description is detailed above at MJ-5.

**MJ-7 Rivanna Watershed (Meadow Creek site 3)**

Project description is detailed above at MJ-5.

**MJ-8 Rivanna Watershed (Meadow Creek site 4)**

Project description is detailed above at MJ-5.

**MJ-9 Southern Shenandoah site**

The purpose of this project is to conduct a stream and riparian buffer preservation and riparian buffer enhancement project on a headwater tributary of the Lynch River and North Fork Rivanna River, in Greene County, Virginia. The funding for this project was approved by the Corps on February 8, 2008. However, negotiations have stalled with the landowner and the Conservancy will request project closure in 2009.

**MJ-10 Rivanna Watershed (Area 3)**

Project description is detailed above at MJ-5.

## Upper James River Basin

The Upper James River Basin is comprised of two HUCs (02080201 and 02080202) encompassing the portion of the James River from the West Virginia border east to the Blue Ridge Parkway. This basin is located within the Conservancy's Central Appalachian Ecoregion. Conservation targets include Central Appalachian river systems (with particular interest to the Cowpasture River and the associated tributaries), montane, non-alluvial wetlands, cave invertebrate communities, bats, alluvial forests and grasslands, pine-oak-heath woodlands, and Central Appalachian mixed hardwood forests.

The projects discussed in this section serve as mitigation for permitted impacts within the Upper James River Basin for which the Fund was used as compensatory mitigation. Through 2008, the Conservancy has requested funds to pursue three mitigation projects in this basin. The Corps has authorized funds for all projects. No new projects were pursued in 2008. Please refer to the 2007 Annual Report for a full description of these projects.

The following table provides a summary of projects for which funds were approved in the Upper James River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type.

**Table 22: Approved Project Summary for the Upper James River Basin.**

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects (\$)	Tidal Wetland Projects (\$)	Stream Projects (\$)
UJ-1	Warm Springs Mountain / Cowpasture River (Phillips)	AC, F	9/1/06	22,679	0	0
		M	2/22/07	105,320	0	0
UJ-2	Warm Springs Mountain / Cowpasture River Site	M	12/7/06	0	0	149,009
SH-3 / UJ-3	Laure Fork (Rifle Ridge Farm, LLC)	M	11/19/07	0	0	0
<b>Totals</b>				<b>127,999</b>	<b>0</b>	<b>149,009</b>
<b>Grand Total</b>				<b>277,008</b>		

The following table summarizes the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Upper James River Basin. In addition, the table provides the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

**Table 23: Non-Tidal Wetland Project Summary for the Upper James River Basin.**

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed	Additional Protected Acreage
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres			
UJ-1	M	3.09	0.05	1.78	3.91	5.16	13.99	4.21	
Sub-totals		3.09	#REF!	#REF!	3.91	5.16	13.99	4.21	0.00
Total Acres of Non-Tidal Impacts					3.10				
Total Mitigation Liability					5.08				
Total Proposed Credits					4.21				
Percent of Wetland Acreage Replacement					99.8				
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress					
P - Planning / permitting				M - Mitigation monitoring					
D - Pending delineation / assessment				CA - Corrective actions necessary					
				PC - Pending project closure					
* Project includes stream or tidal wetland mitigation.									
Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).									

As noted in Section II, the Fund has not been used to mitigate for permitted stream impacts in the Upper James River Basin. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for the stream project pursued by the Conservancy to serve as mitigation for future impacts in the Upper James River Basin.

**Table 24: Stream Project Summary for the Upper James River Basin.**

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
SH-3/ UJ-3	D	104.4	7,445	Riparian buffer preservation along 13,144 lf of the both banks of Laurel Fork, and along left bank of 3,847 lf of Collins Run, and along both banks of 4,563 lf of Buck Creek. Stream system preservation along both banks of 8397 lf of three unnamed tributaries to Laurel Fork; both banks of 2,255 lf of an unnamed tributary to Laurel Fork; both banks of 6108 lf of Blights Run; and both banks of 3,046 lf of two unnamed tributaries to Buck Creek.	reported under SH-3
Totals		104.4	7,445		
ac - acre				D - Pending delineation / assessment	
lf - linear feet				I - Restoration / Enhancement activities in progress	
LP - Pending finalization of land protection				M - Mitigation monitoring	
P - Planning / permitting				CA - Corrective actions necessary	
				PC - Pending project closure	
* Project includes wetland mitigation.					
Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).					
Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").					

**Table 25: Closed project Summary for the Upper James River Basin.**

Project ID	Corps Approval Date	Corps Closure Date	Amount Approved	Amount Unallocated	Non-tidal Wetland Credits	Tidal Wetland Credits	Stream Activity	
							Buffer preservation	Livestock exclusion
UJ-2	12/7/06	7/10/07	149,009	149,009	0	0	0	0
<b>Totals:</b>			<b>149,009</b>	<b>149,009</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Project Summaries**

The following section provides a detailed summary of each project located within the Upper James River Basin for which the Corps authorized funds through 2008. The summaries include a description of the mitigation activities; partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

**UJ-1 Warm Springs Mountain/Cowpasture River (Phillips)**

The purpose of this project is to conduct non-tidal wetland restoration and creation and upland buffer restoration at the Phillips property in Bath County. The initial funding request to complete a feasibility study for the site was approved by the Corps on September 1, 2006. A second funding request was approved by the Corps on February 22, 2007 for the restoration activities. The project area is protected by a conservation easement, signed in 2007, which will be held and enforced by the Conservancy. Long-term protection will be achieved in accordance with the conservation easement.

The restoration of the site was completed in the spring of 2008. Given the existing conditions, constraints, historical community distribution, and functional needs of the region, a restoration plan was formulated that would establish a self sustaining ecosystem. The design of the site focused on the development or enhancement of the site's features to attain the greatest functional wetland benefit. The site design included the restoration of 3.09 acres of non-tidal wetlands, the enhancement of 1.78 acres of non-tidal wetlands and the restoration of 3.91 acres of upland forested buffer. The community types restored on site include montane woodland seep, montane depression wetland, upland depression swamp, piedmont/mountain alluvial forest and acidic oak hickory forest. These communities include both wetland and non-wetland communities. The montane depression wetland occupies the central portion of the site and is supported by montane woodland seeps and surface runoff. An upland depression swamp was created along the western edge of the site using surface runoff as the primary hydrologic input, and drains/transitions into the montane depression wetland to the east. The upland buffer areas along the eastern boundary of the site were returned to an acid oak-hickory forest community type. The floodplain of Stuart Run and the southern third of the site is currently forested and was not modified, except that the large montane woodland seep along the eastern edge of the floodplain escarpment was restored. Minor grading, the installation of low berms, and the development of existing seeps was completed to meet the desired hydrological conditions of the site. Planting of saplings and containerized tree species was performed to establish the desired vegetative communities for the site.

The Conservancy will develop a mitigation monitoring plan and monitoring of the site will begin in 2009 and will continue through 2018 with reports being submitted to the Corps in monitoring years.

**UJ-2 Warm Springs Mountain/Cowpasture River Site**

This project was officially closed in 2007. Please reference the 2007 Annual Report for details on this project.

**SH-3 / UJ-3 Laurel Fork (Rifle Ridge Farm, LLC)**

This project mitigates for stream impacts in both the Shenandoah and Upper James River Basins. Projects details are given under the SH-3 description.

## **New River Basin**

The New River Basin is comprised of two HUCs (05050001 and 05050002). This basin is located within the Conservancy's Central Appalachian Ecoregion. Conservation targets include small, Central Appalachian streams and tributaries and general locations encompassing habitat for known Virginia Department of Conservation and Recreation Natural Heritage elements.

The Fund has been used to mitigate for 1.02 acres of non-tidal wetland impacts and 3,078 linear feet of stream impacts in the New River Basin. Through 2008, the Conservancy has not requested funds to pursue any mitigation project in this basin. Several projects have been identified and are expected to be developed into funding proposals in 2009.

## Potomac River Basin

The Potomac River Basin is comprised of three HUCs (02070008, 02070010, and 02070011) encompassing the Lower Potomac east of the Blue Ridge to the Bay. This basin is located within the Conservancy's Piedmont Ecoregion. Conservation targets include small Piedmont streams and tributaries, sportfish and nongame fish populations, and estuarine and riverine systems.

The projects discussed in this section serve as mitigation for permitted impacts within the Potomac River Basin for which the Fund was used as compensatory mitigation. All approved projects through 2008 are listed on the below tables. Complete project descriptions for projects approved prior to 2008 may be found in the 2007 Annual Report. Updates are given for each project as applicable. Complete descriptions of projects approved during 2008 are provided below.

The following table provides a summary of projects for which funds were approved in the Potomac River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type.

**Table 26: Approved Project Summary for the Potomac River Basin.**

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects (\$)	Tidal Wetland Projects (\$)	Stream Projects (\$)
PO-1	Caledon (Nash)	M	5/23/01	175,000	0	0
		M	12/19/03	0	0	60,800
PO-2	Dogue Creek Site	M	10/6/06	0	0	1,222,000
PO-3	Goose Creek Site	M	12/7/06	0	0	1,406,703
PO-4	Goose Creek Site	A	10/11/06	3,250	0	3,250
			1/12/07	750	0	750
PO-5	Goose Creek (Bluewildlife, LLC)	M	7/27/07	256,820	0	1,644,752
PO-6	Crow's Nest (Stafford Lakes Partnership, Phase I)	M	2/08/08	800,000	38,000	2,262,000
PO-7	Crow's Nest Phase II	M	2/08/08	0	0	1,400,000
<b>Totals</b>				<b>1,235,820</b>	<b>38,000</b>	<b>8,012,255</b>
<b>Grand Total</b>				<b>9,286,074</b>		
M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey						

The following tables summarize the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal and tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Potomac River Basin. In addition, the tables provide the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The tables do not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys,

feasibility studies, or concept plan development.

**Table 27: Non-Tidal Wetland Project Summary for the Potomac River Basin.**

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres	Acres	Credits
*PO-1	M,D,CA	10	50	0	26.38	66.38	152.76	20.08
*PO-5	P,I	0	0	0	0	0	6.50	5.50
*PO-6	PC	0	385	0	0	144	529	39.16
*PO-7	LP	0	60	0	0	64	124	8.18
Sub-totals		10	435	0	26.38	274.38	812.26	72.92
Total Acres of Non-Tidal Impacts					7.86			
Total Mitigation Liability					12.39			
Total Proposed Credits					72.92			
Percent of Wetland Acreage Replacement					127.2			
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress				
P - Planning / permitting				M - Mitigation monitoring				
D - Pending delineation / assessment				CA - Corrective actions necessary				
				PC - Pending project closure				
* Project includes stream or tidal wetland mitigation.								

**Table 28: Tidal Wetland Project Summary for the Potomac River Basin.**

Project Information		Tidal Wetland (Ac)			Upland (Ac)		Mitigation	Proposed
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres	Acres	Credits
*PO-6	PC	0	108	0	0	0	108	8.96
*PO-7	LP	0	9	0	0	0	9	0.75
Sub-totals		0	117	0	0	0	117	9.71
Total Acres of Tidal Impacts					0.11			
Total Mitigation Liability					0.11			
Total Proposed Credits					9.71			
Percent of Wetland Acreage Replacement					0.0			
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress				
P - Planning / permitting				M - Mitigation monitoring				
D - Pending delineation / assessment				CA - Corrective actions necessary				
				PC - Pending project closure				
* Project includes stream or non-tidal wetland mitigation.								

As noted in Section II, the Fund has been used to mitigate for 76,495 linear feet of permitted stream impacts both prior to and under the USM in the Potomac River Basin through 2008. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Potomac River Basin. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development. All stream projects initiated through 2008 have been with funds accrued prior to



implementation of the USM.

**Table 29: Stream Project Summary for the Potomac River Basin.**

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
PO-1 *	M	7.24	1,600	Priority 1 relocation of 300 lf and Priority 2 restoration of 650 lf of an unnamed tributary to Chotank Creek with an existing mature wooded buffer ranging from 50 to over 200 feet along each bank. Livestock exclusion fencing installed to protect 1,600 lf of stream channel and a small pond.	0
PO-2	LP, D, P	5.30	2,500	Priority 1 relocation of 2,300 lf and Priority 2 restoration of 200 lf along two unnamed tributaries to Dogue Creek. The channels buffered by an existing mature forest (with several small areas of buffer enhancement) ranging from 50 to 150 feet along each bank.	0
PO-3	LP, D, P	28.00	6,877	Channel restoration and enhancement activities along 6,877 lf of several unnamed tributaries to Crooked Run. In addition to channel work, riparian buffer planting 100 feet wide along 5,182 lf of both banks, except for an 80 foot wide buffer along the right bank for 1,118 lf and a 20 foot wide buffer along the left bank for 146 lf. Riparian buffer planting 80 feet wide along a single bank for 1,695 lf (other bank is off property). Livestock exclusion fencing installed to protect 6,877 lf of channel.	0
PO-5	P,I	35.5	8,050	Channel restoration and enhancement activities along 5,000 lf of Bolling Branch and 2,200 lf along two unnamed tributaries. In addition, riparian buffer enhancement along 750 lf of Bolling Branch and stream and buffer preservation along 100 lf of an unnamed tributary.	77
PO-6	PC	306	79,445	Stream system preservation along both banks of 53,175 lf of twelve unnamed tributaries to Accokeek and Potomac Creeks with an existing mature wooded buffer. Riparian buffer preservation along 26,270 lf of one bank of Accokeek and Potomac Creeks with an existing mature wooded buffer.	737
PO-7	LP	211	29,596	Stream system preservation along both banks of 21,661 lf of twelve unnamed tributaries to Accokeek and Potomac Creeks with an existing mature wooded buffer. Riparian buffer preservation along 7,934 lf of one bank of Accokeek and Potomac Creeks with an existing mature wooded buffer.	856
Totals		593.04	128,068	1,670	
ac - acre lf - linear feet LP - Pending finalization of land protection P - Planning / permitting				D - Pending delineation / assessment I - Restoration / Enhancement activities in progress M - Mitigation monitoring CA - Corrective actions necessary PC - Pending project closure	
* Project includes wetland mitigation.					
Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).					
Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").					

**Table 30: Closed Project Summary for the Potomac River Basin.**

Project ID	Corps Approval Date	Corps Closure Date	Amount Approved	Amount Unallocated	Non-tidal Wetland Credits	Tidal Wetland Credits	Stream Activity	
							Buffer preservation	Livestock exclusion
PO-4	10/10/2006	11/16/2007	8,000	0	0	0	0	0
<b>Totals:</b>			<b>8,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Project Summaries**

The following section provides a detailed summary of each project located within the Potomac River Basin for which the Corps has authorized funds in 2008. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project. Monitoring updates for other project are included as appropriate. Please see 2007 Annual Report for detailed descriptions of projects approved prior to 2008.

**PO-1 Caledon (Nash)**

The purpose of this project is to conduct non-tidal wetland restoration and preservation, upland buffer restoration and preservation, stream restoration, and livestock exclusion activities at the Nash property in King George County.

**Wetland Summary**

Based on landscape setting, hydrology, and analyses of vegetation in surrounding areas, the appropriate ecological community groups to target for restoration of the pastureland consists of non-riverine wet hardwood forests and mesic mixed hardwood forest. The goal of the proposed mitigation activities is to restore the livestock pasture area to a mixture of forested wetlands (10 acres) and upland buffer (26 acres) and to preserve approximately 50 acres of forested wetland 66 acres of upland. The original proposed wetland restoration area of 40 acres was revised to 10 acres in the 2005 Annual Report based upon hydrologic information collected on the site.

Results from hydrological monitoring in 2008 indicate that the site is experiencing saturation and inundation sufficient to meet hydrology standards; however, some of the hydrology monitoring wells for the site could not be read. The Conservancy will replace/repair any non-functioning wells and will collect hydrology data during the 2009 growing season to augment the 2008 hydrology data. Planted tree survival and natural colonization is meeting the 400 stems per acre success criteria across a majority of the site. Vegetation monitoring plot data indicates that most of the site is meeting hydrophitic vegetation community criteria. Weed species such as blackberry (*Rubus* spp.), multiflora rose (*Rosa multiflora*), Nepalese browntop (*Microstegium vimineum*) and soft needle rush (*Juncus effusus*) are present on the site. The Conservancy will monitor these potentially problematic species and will implement corrective action if it is needed. 2008 is the fifth year post construction and mitigation monitoring is scheduled through 2013 with reports submitted to the Corps.

### ***Stream Summary***

The stream portion of this project was closed in 2007. Refer to the 2007 Annual Report for this information.

#### **PO-2 Dogue Creek Site**

The purpose of this project is to conduct stream restoration activities at a property in Fairfax County. The Northern Virginia Soil and Water Conservation District (NOVA SWCD) and Vanasse Hangen Brustlin, Inc. (VHB) identified this site and approached the Conservancy to discuss completing this restoration project through the Fund. The funding for this project was approved by the Corps on October 6, 2006. The Conservancy proposed to conduct approximately 2,500 linear feet of restoration activities along two tributaries to Dogue Creek. The landowner will donate a conservation easement on the 5.30 acre site, which consists of a “no-touch” stream and riparian buffer corridor. The easement will be held by the NOVA SWCD and the Northern Virginia Conservation Trust (NVCT). Long-term protection of the property is accomplished through the monitoring and enforcement of the easement by NOVA SWCD and NVCT. The schedule for the stream monitoring and reporting events will be finalized through the permitting process.

The Conservancy anticipates the protection method will be finalized in 2009. Once this is recorded, the Conservancy will finalize the planning process to implement this project.

#### **PO-3 Goose Creek Site**

The purpose of this project is to conduct stream restoration, enhancement, and livestock exclusion activities at a property in Loudoun County. The property was identified as a potential site through the Conservancy’s outreach to local interest groups in Loudoun County. The Goose Creek Association and the Loudoun County Natural Resources Conservation Service (NRCS) contacted the Conservancy to discuss completing this restoration and enhancement project through the Fund. The funding for this project was approved by the Corps on December 7, 2006. The Conservancy proposed to install livestock exclusion fencing and conduct restoration and enhancement activities along approximately 6,877 linear feet of several unnamed tributaries to Crooked Run. The landowners will donate a conservation easement over an approximate 80 to 100 foot wide “no-touch” riparian area along each bank of the tributaries on the subject property (total of 28 acres). This easement will be held by the Conservancy. Long-term protection of the property is accomplished through the monitoring and enforcement of the easement by the Conservancy. The schedule for the stream monitoring and reporting events will be finalized through the permitting process.

The Conservancy anticipates the easement will be finalized in 2009. Once the easement is signed, the Conservancy will finalize the planning process to implement this project.

#### **PO-4 Goose Creek Site**

Project closed in 2007. Refer to 2007 Annual Report for detailed information.

#### **PO-5 Goose Creek (Bluewildlife, LLC)**

Please see 2007 Annual Report for detailed project description.

The purpose of this project is to conduct non-tidal wetland enhancement and creation and stream restoration, enhancement and preservation activities at the Bluewildlife property in Fauquier

County. The funding to complete these activities was approved by the Corps on July 27, 2007. The Conservancy proposed to restore the forest cover in the riparian area of the property and to restore the proper dimension, pattern, and profile to the degraded portion of Bolling Branch that occurs on the property along with several unnamed tributaries and the creation of floodplain wetland system. The landowner donated a conservation easement on a 119 acre property in 2007, of which 42 acres will serve as mitigation acreage and be subject to “no touch” restrictions and undergo mitigation activities.

Design and permitting were completed in 2008. Implementation of the stream channel and wetland restoration activities is scheduled to begin in early 2009.

#### **PO-6 Crow’s Nest (Stafford Lakes Partnership, Phase I)**

The purpose of this project is to conduct tidal wetland preservation, non-tidal wetland preservation, stream preservation and upland buffer preservation on Phase I of the Crow’s Nest property in Stafford County. The funding to complete these activities was approved by the Corps on February 8, 2008. The Conservancy proposed to partner with Virginia Department of Conservation and Recreation and Stafford County and assist with the purchase of this nearly 1,700 acre tract forming the peninsula between Accokeek and Potomac Creeks along the Potomac River. The purchase was completed on April 18, 2008 and is protected through deed of dedication as a state Natural Area Preserve.

Many conservation organizations have long ago realized the importance and unique nature of the Crow’s Nest peninsula. The Fund was able to utilize its ability to help protect this large, landscape-level site, which contributes to the state’s success in protecting ecological resources as well as water quality. This site contains 1,700 +/- acres encompassing 79,000 linear feet of streams. The vast majority of stream reaches on the property originate within its boundaries, protecting the entire watershed. Upland portions of the property are covered in high-quality, mature hardwood forests and the surrounding wetlands have been characterized by ecologists with the Natural Heritage Program as some of the best in the state. In addition to the forested stream corridor, acquisition will preserve approximately 493 acres of a mixture of wetland types. These wetlands protect water quality and provide critical habitat for at least twenty-five species of waterfowl that use the property’s freshwater tidal marshes and wooded swamps in Crow’s Nest for nesting, migration, and wintering habitat. As the property will be protected and managed for its ecological values, there will be buffers of at least 215 feet, though oftentimes greater, on all streams and wetlands within the site acquisition boundary.

In 2008 a NWI/GIS surface water delineation of the site for mitigation credit was completed and field verified. The Corps approval of the delineation is expected to occur in 2009 and the Conservancy will request to close the project after receiving that approval.

#### **PO-7 Crow’s Nest Phase II**

The purpose of this project is to complete the acquisition of the entire Crow’s Nest property (Phase II) and conduct tidal wetland preservation, non-tidal wetland preservation, stream preservation and upland buffer preservation in Stafford County. The funding to complete these activities was approved by the Corps on February 8, 2008. The Conservancy proposed to partner with Virginia Department of Conservation and Recreation and Stafford County and assist with the purchase of this nearly 1,200 acre tract forming the peninsula between Accokeek and Potomac Creeks along the Potomac River. The purchase is expected to occur by December 2009,

and will be protected through deed of dedication as a state Natural Area Preserve.

Many conservation organizations have long ago realized the importance and unique nature of the Crow's Nest peninsula. The Fund was able to utilize its ability to help protect this large, landscape-level site, which contributes to the state's success in protecting ecological resources as well as water quality. This site contains 1,200 +/- acres encompassing 29,500 linear feet of streams. The vast majority of stream reaches on the property originate within its boundaries, protecting the entire watershed. Upland portions of the property are covered in high-quality, mature hardwood forests and the surrounding wetlands have been characterized by ecologists with the Natural Heritage Program as some of the best in the state. In addition to the forested stream corridor, acquisition will preserve approximately 69 acres of a mixture of wetland types. These wetlands protect water quality and provide critical habitat for at least twenty-five species of waterfowl that use the property's freshwater tidal marshes and wooded swamps in Crow's Nest for nesting, migration, and wintering habitat. As the property will be protected and managed for its ecological values, there will be buffers of at least 215 feet, though oftentimes greater, on all streams and wetlands within the site acquisition boundary.

## **Rappahannock River Basin**

The Rappahannock River Basin is comprised of two HUCs (02080103 and 02080104) encompassing the headwaters of the Rappahannock and Rapidan rivers east to the Chesapeake Bay. This basin is located within both the Conservancy's Piedmont and Chesapeake Bay Lowlands ecoregions. Conservation targets include small, Blue Ridge foothill streams and inner Piedmont streams, tributaries, and rivers, anadromous fishes, freshwater mussels, seepage wetlands, tidal freshwater system, migratory land birds and raptors, Coastal Plain mixed pine-hardwood forest matrix, Piedmont forest matrix, and calcareous forest.

The projects discussed in this section serve as mitigation for permitted impacts within the Rappahannock River Basin for which the Fund was used as compensatory mitigation. All approved projects through 2008 are listed on the below tables. Complete project descriptions for projects approved prior to 2008 may be found in the 2007 Annual Report. Updates are given for each project as applicable. Complete descriptions of projects approved during 2008 are provided below.

The following table provides a summary of projects for which funds were approved in the Rappahannock River Basin.

**Table 31: Approved Project Summary for the Rappahannock River Basin.**

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects (\$)	Tidal Wetland Projects (\$)	Stream Projects (\$)
RP-1	Rappahannock Phragmites Control	M	4/11/01	0	10,000	0
RP-2	Linden Farm	M	7/30/02	0	0	61,894
RP-3	Rappahannock River Fish Passage	M	12/5/02	0	0	39,700
RP-4	Upper Rappahannock (City of Fredericksburg)	M	6/30/03	0	0	1,100,000
		M	5/23/05	0	0	206,275
		M	7/27/06	0	0	654,665
		M	2/22/07	0	0	56,479
		M	5/7/08	0	0	300,275
RP-5	Rappahannock River (Wellford)	M	4/21/05	14,000	0	0
			8/28/08	3,700	0	0
RP-6	Rapidan River Site	A	9/9/05	6,500	0	0
RP-7	Upper Rappahannock Forest Block site	M	2/22/07	114,816	0	0
RP-8	Upper Rappahannock Forest Block (Collawn, R.)	M	2/22/07	121,316	0	0
		M	8/28/08	1,945	0	0
RP-9	Rappahannock River (Rose)	M	8/10/07	81,000	0	0
RP-10	Rappahannock River (Rose II)	M	2/8/08	75,000	0	0
		M	8/28/08	500	0	0
RP-11	Mountain Run (EBX)	M	2/8/08	869,400	0	0
		M	4/3/08	29,941	0	0
RP-12	Rappahannock River (Norman’s Ford – Jamie Craig)	M	2/25/08	150,000	0	0
RP-13	Rappahannock River site	M	6/16/08	250,000	0	129,545
		M	8/5/08	27,818	0	27,818
Totals				1,745,936	10,000	2,576,651
Grand Total				4,332,587		

Table 32 provides a summary of projects which have closed in the Rappahannock River Basin.

**Table 32: Closed Project Summary for the Rappahannock River Basin.**

Project ID	Corps Approval Date	Corps Closure Date	Amount Approved (\$)	Amount Unallocated (\$)	Wetland Credits	Stream Activity	
						Buffer preservation (lf)	Livestock exclusion (lf)
RP-1	4/11/01	8/14/07	10,000	0	1.60	N/A	N/A
RP-2	7/30/02	7/27/07	61,894	6,961.74	N/A	2,000	7,742
		8/5/08					
RP-3	12/5/02	7/27/07	39,700	0	N/A	N/A	N/A
RP-6	9/9/05	7/27/07	6,500	3,500	N/A	N/A	N/A
RP-12	2/25/08	12/16/08	150,000	0	2.92	N/A	N/A
<b>Totals</b>			<b>268,094</b>	<b>10,461.74</b>	<b>4.52</b>	<b>2,000</b>	<b>7,742</b>

The following tables summarize the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal and tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Rappahannock River Basin. In addition, the tables provide the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The tables do not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

**Table 33: Non-Tidal Wetland Project Summary for the Rappahannock River Basin.**

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed	Additional Protected Acreage
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres			
RP-5	D,PC	0	16.4	0	0	1.6	18	1.72	0
RP-7	D,PC	4	3.9	0	6	12.1	26	5.40	140.4
RP-8	D,PC	0	9.8	0	0	10	19.8	1.48	56.3
RP-9	D,PC	0	6.5	0	0	14	20.5	1.35	54.1
RP-10	D,PC	0	6.1	0	0	25.5	31.6	1.89	55.8
RP-11	I	17.25	4.58	0.82	5.5	2.48	30.63	18.47	0
RP-12	C	2.92	0	0	0	0	0	2.92	0
RP-13	LP	32.23	0	0	19	0	51.23	33.50	137
Sub-totals		56.40	47.28	0.82	30.50	65.68	197.76	66.72	443.60
Total Acres of Non-Tidal Impacts									
					10.21				
Total Mitigation Liability									
					18.98				
Total Proposed Credits									
					66.72				
Percent of Wetland Acreage Replacement									
					552.4				
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress					
P - Planning / permitting				M - Mitigation monitoring					
D - Pending delineation / assessment				CA - Corrective actions necessary					
				PC - Pending project closure					
* Project includes stream or tidal wetland mitigation.									



**Table 34: Tidal Wetland Project Summary for the Rappahannock River Basin.**

Project Information		Tidal		SAV	Oyster	Tidal	Tidal	Upland	Mitigation	Proposed
Project #	Status	Rest	Rest	Rest	Enh	Pres	Pres	Buffer	Acres	Credits
RP-1	C	0	0	0	80	0	0		80	1.60
Acre Sub-totals		0	0	0	80	0	0		80	1.60
Credit Sub-totals		0	0	0	1.60	0	0			
Total Acres of Tidal Impacts								0		
Total Mitigation Liability								0		
Total Proposed Credits								1.60		
Percent of Wetland Acreage Replacement								N/A		
LP - Pending finalization of land protection					I - Rest/Enh/Creation activities in progress					
P - Planning/permitting					M - Mitigation monitoring					
D - Pending delineation/assessment					CA - Corrective action necessary					
C - Closed					PC - Pending project closure					

As noted in Section II, the Fund has been used to mitigate for 15,679 linear feet of permitted stream impacts in the Rappahannock River Basin through 2008. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Rappahannock River Basin.

**Table 35: Pre-USM Stream Project Summary for the Rappahannock River Basin.**

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
RP-2	C	28	7,742	Riparian buffer planting (approximately 100 to 300 feet wide) along both banks of 2,000 lf of stream channel. Livestock exclusion fencing installed to protect 7,742 lf of unnamed tributaries to Mountain Run and a pond.	0
RP-3	C	NA	NA	Installed an Alaskan steep-pass structure in White Oak Run to allow the migration of anadromous fishes.	NA
RP-4 <sup>+</sup>	LD	1090.38	264,738	Riparian buffer preservation of 59,712 linear feet along both banks and 33,886 lf along one bank of the Rappahannock River. Riparian buffer preservation of 32,290 lf along both banks and 20,591 lf along one bank of the Rapidan River. Riparian buffer preservation along 134,163 lf of both banks of unnamed tributaries to the two rivers. Protected buffers are 100 foot wide predominantly mature woodlands. Funding for this project is both pre-USM and USM.	2978.62
<b>Totals</b>		<b>1,118.38</b>	<b>272,480</b>		<b>2,978.62</b>
ac - acre lf - linear feet LP - Pending finalization of land protection P - Planning / permitting C - Closed * Project includes pre-USM and USM funding. Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture). Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").					
D - Pending delineation / assessment I - Restoration / Enhancement activities in progress M - Mitigation monitoring CA - Corrective actions necessary PC - Pending project closure					

**Table 36: USM Stream Impacts and Mitigation Summary for the Rappahannock River Basin.**

Project Information		Stream Activity (lf)			Upland Buffer (ac)		Mitigation Acres	Total Channel Length	Proposed Credits (CC)
Project ID	Status	Rest/Enh	Pres	Livestock Exclusion	Rest	Pres			
RP-4 <sup>+</sup>	D	0	39,559	0	0	163	163	39,559	7493
RP-13 <sup>+</sup>	LP	0	3,900	0	0	33	33	3,900	648
<b>Sub-totals</b>		<b>0</b>	<b>43,459</b>	<b>0</b>	<b>0</b>	<b>196</b>	<b>196</b>	<b>43,459</b>	<b>8141.2</b>
<b>Total Linear feet of Impacts (lf)</b>						<b>4,908</b>			
<b>Total Compensation Required (TCR)</b>						<b>4,260</b>			
<b>Total Proposed Credits (CC)</b>						<b>8,141</b>			
LP – Pending finalization of land protection I – Restoration/Enhancement/Creation activities in progress CA – Corrective actions necessary D – Pending delineation / assessment * Project includes pre-USM and USM funding.							P – Planning/permitting M – Mitigation monitoring PC – Pending project closure C – Project closed		

**Project Summaries**

The following section provides a detailed summary of each project located within the

Rappahannock River Basin for which the Corps authorized funds during 2008. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

**RP-1 Rappahannock River Phragmites Control**

This project was officially closed on November 16, 2007. Details about this project can be found in the 2007 Annual Report.

**RP-2 Linden Farm**

This project was officially closed in 2007. However, remaining funds for this project were returned from Friends of the Rappahannock in 2008. An amended closure approval was given on August 5, 2008 indicating the return of \$6,961.74 in unspent funds. Details about this project can be found in the 2007 Annual Report.

**RP-3 Rappahannock River Fish Passage**

This project was officially closed on July 27, 2007. Details about this project can be found in the 2007 Annual Report.

**RP-4 Upper Rappahannock (City of Fredericksburg)**

The purpose of this project is to conduct stream and the associated upland riparian buffer preservation along a significant length of the Rappahannock and Rapidan Rivers (and associated tributaries) on a property owned by the City of Fredericksburg. The initial funding for this project was approved by the Corps on June 30, 2003, with three subsequent approvals on May 23, 2005, July 27, 2006, and February 22, 2007. In 2008, the Conservancy requested additional funds to complete a boundary survey of the property. This was approved on May 7, 2008, from USM revenues. The Conservancy and partners purchased a conservation easement on approximately 4,232 acres along the two major rivers. The Conservancy, the Virginia Outdoors Foundation, and the Virginia Department of Game and Inland Fisheries co-hold the easement. Long-term protection of the site will be achieved through the monitoring and enforcement of the easement. No additional monitoring is required for this project.

The Conservancy anticipates closing this project following completion of the boundary survey and surface water delineation or assessment.

**RP-5 Rappahannock River (Wellford)**

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation at the Wellford Farms property in Richmond County. The funding for this project was approved by the Corps on April 21, 2005. Subsequent funding was approved on August 28, 2008. The Conservancy proposed to buy the timber rights for an 18-acre portion of the property including wetlands and upland buffer. The property was placed under easement on April 5 2005, which is held and monitored by the Virginia Outdoors Foundation (VOF). Long-term protection of this site is achieved through the monitoring and enforcement of this easement by VOF. No additional monitoring is required for this project.

The Conservancy negotiated purchase of a conservation easement to extinguish the timber rights on 18.0 acres containing approximately 16.4 acres of forested wetlands and 1.6 acres of upland

buffers on the property. A wetland delineation of the mitigation area was completed in 2008 and will be confirmed by the Corps in 2009. Following confirmation of the delineation, the Conservancy will request closure of this project.

**RP-6 Rapidan River Site**

This project was officially closed on July 27, 2007. Details about this project can be found in the 2007 Annual Report.

**RP-7 Upper Rappahannock Forest Block site**

The project was approved for funding in February 2007. Negotiations with the landowner have not progressed and the Conservancy anticipates closing this project without mitigation in 2009.

**RP-8 Upper Rappahannock Forest Block (Collawn, R.)**

The purpose of this project is to conduct wetland and upland preservation mitigation activities on the Collawn property on Hutchinson Creek, a tributary to the Rappahannock River in Essex County. The property is 76.1 acres and has been placed under easement that is co-held between the Conservancy and the Virginia Outdoors Foundation. Initial funding for this project was granted on February 22, 2007, with a subsequent approval on August 28, 2008.

A wetland delineation of the mitigation area was completed in 2008 and will be confirmed by the Corps in 2009. Following confirmation of the delineation the Conservancy will request closure of this project.

**RP-9 Rappahannock River (Rose)**

The purpose of this project is to conduct wetland preservation activities on the 74.6-acre Rose property on the Rappahannock River in Essex County. Funding for this project was approved by the Corps on August 10, 2007.

This project was brought to the Conservancy by US Fish and Wildlife Service (FWS). FWS provided most of the funding for the easement purchase for this site. The Fund provided partial funding to secure the conservation easement that is held and will be monitored by FWS. A wetland delineation of the mitigation area was completed in 2008 and will be confirmed by the Corps in 2009. Following confirmation of the delineation the Conservancy will request closure of this project.

**RP-10 Rappahannock River (Rose II)**

The purpose of this project is to conduct a non-tidal wetland and upland buffer preservation project on the Rappahannock River in Essex County Virginia, immediately adjacent to RP-9. Funding for this project was approved by the Corps on January 22, 2008. A second approval was given on August 28, 2008. The US Fish and Wildlife Service (FWS) in partnership with the Trust for Public Lands (TPL) and the Conservancy are purchasing a conservation easement through bargain sale on 87.4 acres. This easement, held by FWS, will provide the long term protection for the project.

The 87.4-acre easement area is a mixture of mature, mixed hardwood forest, retired agricultural fields now in grassland, non-tidal and tidal wetlands. Funds allocated from the Trust Fund will

protect approximately 6.1 acres of non-tidal forested wetlands located within a confined valley, surrounded by mature, mixed hardwood forest including oaks, hickory, poplar, maple, and pines. Approximately 16.2 acres are tidal, emergent marsh wetlands along the banks of the Rappahannock River. However, the protection of the tidal wetlands is not attributed to the Fund. Agricultural fields currently managed as grassy meadow are adjacent to the buffer area on the west side of the property.

Mitigation activities at the site include the preservation of approximately 6.1 acres of non-tidal wetland and a 200' upland buffer (25.5 acres) surrounding the wetlands. Although 87.4 acres are protected by the easement, including the tidal wetlands, for the purposes of reporting, the additional 55.8 acres are considered "Additional Protected Acreage."

A wetland delineation of the mitigation area for mitigation credit was completed in 2008 and will be confirmed by the Corps in 2009. Following confirmation of the delineation and recordation of the easement the Conservancy will request closure of this project.

#### **RP-11 Mountain Run (EBX)**

The Mountain Run site was identified and presented to TNC for funding through the Fund by the landowner and sponsor of a mitigation bank originally planned for the site. The property consists of a total of 55 acres adjacent to Mountain Run in Orange County. Funding for this project was approved by the Corps on February 8, 2008 and on April 3, 2008. The landowner previously used 17 acres of the property for a stream mitigation project and that acreage is currently covered by restrictive covenants that conform to Virginia and federal mitigation requirements. The stream mitigation portion of the property is adjacent to but not a part of the 38-acre wetland mitigation site encompassing this project. The landowner recorded the Corps-recommended deed restrictions on the wetland mitigation portion of the property, a total of 38 acres, on October 6, 2008. Together with the adjacent restricted area, this project will eliminate all agriculture, forestry and development activities on the entire 55 acre property.

The property on which the wetlands mitigation site is located consists of 55 acres of floodplain transected by drainage swales and tributaries of Mountain Run. The property's topography is generally level, and the wetland mitigation site will include the floodplain acreage along Mountain Run. The planned mitigation activities are comprised of approximately 32.79 acres of the 38-acre site. Site activity will involve wetland restoration and creation of approximately 17.25 acres of forested wetlands, 0.82 acres of wetland enhancement, 6.74 acres of wetland preservation, 0.60 acres of buffer preservation, 1.88 acres of buffer enhancement, and 5.5 acres of upland re-forestation. The concept plan calls for grading, ripping and amending the soil, construction of contoured, micro-topography in certain locations, and construction of water control structures. The balance of the 38-acre site consists of an existing Williams-Transco easement (3.59 acres) and uplands (1.49 acres).

In late 2008 the final restoration plans were completed and applications for permits for the implementation of the plan were submitted. Site construction is expected to begin and be completed in early 2009. This project is being managed through a full delivery contract. All aspects of the project through the monitoring and delivery of credits will be handled under this contract.

#### **RP-12 Rappahannock River (Norman's Ford – Jamie Craig)**

The purpose of this project was to acquire credits to mitigate for permitted non-tidal wetland

impacts in the Rappahannock River Basin. Funding for this project was approved by the Corps on February 25, 2007. On February 26, 2007, the Conservancy purchased 1.16 non-tidal wetland credits from James Craig. The credits came from Mr. Craig's Norman's Ford wetland mitigation site in the Rappahannock River Basin. In addition Mr. Craig donated the remaining 1.76 credits at this site to the Conservancy. In total, this project generated 2.92 non-tidal wetland credits. This project was officially closed on December 16, 2008.

### **RP-13 Rappahannock River site**

The purpose of this project is to acquire a conservation easement and complete a wetland and stream mitigation project on a tract in Essex County, Virginia. Funding for this project was approved by the Corps on June 16, 2008 and August 5, 2008. Based upon preliminary information and assessment of the property, wetland restoration activities will be conducted on approximately 40 acres with an additional 20 acres of forested buffer created in the adjacent uplands. In addition, approximately 33 acres will be preserved to protect the existing riparian buffer along 3,900 lf of tributaries to the Rappahannock River. Long term protection of the site will be achieved through a conservation easement. The Conservancy is currently negotiating the terms of this easement with the landowner. The proposed easement will be placed on 222 acres of the property; the proposed wetland mitigation area is approximately 60 acres. The remaining 162 acres is in active farm fields (118 acres) and mature forest (44 acres) not immediately adjacent to the mitigation area. The easement will allow farming activities on the remaining farm fields, two home sites and managed timber activities on the south side of the property. Of the remaining 162 acres, 33 will be preserved through the easement as stream mitigation through riparian buffer preservation.

The property contains approximately 40 acres of hydric soils that have been identified for potential restoration. All of these soils are on lands which are currently farmed and drained via drain tile. A small berm is located on the east side of the property near a drainage ditch and among some shrubs and small trees. The berm was created as a barrier to water movement into a small agricultural field (~1 acre). Currently a well maintained tile and ditch drainage system alters the hydrology to allow farming activities on a mineral hydric soil (Totmotley). Removal of portions of the tile drainage system and the installation of a water control structure on the ditch system would restore the hydrologic regime of the hydric soils. Shallow grading of the site will be performed to reestablish the preexisting hydrology of the site. According to the landowner there is a small seep off the edge of the mitigation area that is currently being diverted away from the farm fields by a small ditch. Flow from the seep was not evident during site visits, but occurs according to the landowner. Plugging of this diversion ditch would return this hydrologic input to the mitigation area.

Planting of the site will occur after the construction activities have been completed. A three phase planting plan would take place with a 4 acre area of palustrine emergent marsh being established first in a central area. Radiating out from the emergent area a 7 acre palustrine scrub-shrub wetland area would be established. This would be followed by the remaining 29 acres of the wetland restoration area being planted to a palustrine forested system. A 20 acre forested buffer would be established in the rest of the mitigation area. This buffer extends to the limits of the fields in some cases and is 100 feet wide at a minimum between the farm fields and the wetland restoration area. Trees and shrubs will be planted at a rate of 435/acre and will possibly be a combination of large tubelings, gallon sized and one inch calipers. This variety is intended to assist the survivability and development of diverse habitat. Invasive species control will be performed in the site preparation and development stages of the planting plan. The emergent wetland planting will contain a mix of native grasses and forbs that can establish and thrive in the

expected hydrologic regime and soils.

The detailed design of the restoration site will occur as soon as the landowner and the Conservancy can agree upon the easement and mitigation concept design.

## Roanoke River Basin

The Roanoke River Basin is comprised of seven HUCs (03010101, 03010102, 03010103, 03010104, 03010105, 03010106 and 0304010) encompassing the Roanoke headwaters and the Dan River draining south into North Carolina. This basin is located within both the Conservancy's Piedmont and Central Appalachian Forest ecoregions. Conservation targets include Ridge and Valley rivers, calcareous seeps/fens, basic mesic forests, acidic oak pine forests, calcareous woodlands/forests, and warmwater fish communities including orangefin, madtom, Roanoke hogsucker, bigeye jumprock, Roanoke logperch and riverweed darter.

The projects discussed in this section serve as mitigation for permitted impacts within the Roanoke River Basin for which the Fund was used as compensatory mitigation. All approved projects through 2008 are listed on the below tables. Complete project descriptions for projects approved prior to 2008 may be found in the 2007 Annual Report. Updates are given for each project as applicable. Complete descriptions of projects approved during 2008 are provided below.

The following table provides a summary of projects for which funds were approved in the Roanoke River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type.

**Table 37: Approved Project Summary for the Roanoke River Basin.**

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects (\$)	Tidal Wetland Projects (\$)	Stream Projects (\$)
RO-1	Apple Orchard Mountain (Edwards)	M	6/7/05	0	0	180,000
RO-2	Apple Orchard Mountain (City of Bedford)	M	6/7/05	0	0	15,000
		M	2/7/06	0	0	8,250
RO-3	Goose Creek-Roanoke Bedford County site	F	2/22/07	10,075	0	10,075
		C	2/08/08	9,000	0	0
		M	12/16/08	231,000	0	469,000
RO-4	Turkeycock Mountain (Grassy Fork site)	A	2/08/08	1,500	0	1,500
RO-5	Poor Mountain (Sanzone)	M	11/02/08	0	0	45,000
<b>Totals</b>				<b>251,575</b>	<b>0</b>	<b>728,825</b>
<b>Grand Total</b>				<b>980,400</b>		
M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey						

As noted in Section II, the Fund has been used to mitigate for 4.02 acres of permitted non-tidal wetland impacts in the Roanoke River Basin through 2008. The following table summarizes the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Roanoke River Basin. In addition, the tables provide the amount of impact acres in the basin, the



total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The tables do not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

**Table 38: Non-Tidal Wetland Project Summary for the Roanoke River Basin.**

Project Information		NT Wetland Acres			Upland Acres		Mitigation Acres	Proposed Credits	Additional Protected Acreage
Project ID	Status	Rest	Pres	Enh	Rest	Pres			
RO-3	LP,P	4	13.30	0	7	1.70	33	5.88	0
Sub-totals		4	13.30	0	7	1.70	33	5.88	0
Total Acres of Non-tidal Impacts						4.02			
Total Mitigation Liability						6.97			
Total Proposed Credits						5.88			
Percent of Wetland Acreage Replacement						99.50			
LP - Pending finalization of land protection					I - Rest/Enh/Creation activities in progress				
P - Planning/permitting					M - Mitigation monitoring				
D - Pending delineation/assessment					CA - Corrective action necessary				
C – Closed					PC - Pending project closure				

Through 2008, the Fund has been used to mitigate for 6,442 linear feet of permitted stream impacts in the Roanoke River Basin, both before and after implementation of the USM. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Roanoke River Basin. All projects approved through 2008 have utilized pre-USM funds.

**Table 39: Stream Project Summary for the Roanoke River Basin.**

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
RO-1	C	36.50	5,220	Riparian buffer preservation along 2,379 lf of the right bank of Little Stony Creek with an existing mature wooded buffer width of 200 feet. Within this reach, riparian buffer preservation along 659 lf of the left bank with an existing mature wooded buffer width of primarily 125 feet. Stream system preservation along both banks of 2,841 lf of three unnamed tributaries to Little Stony Creek with an existing mature wooded buffer width of 200 feet (except for several areas of a minimum 125 foot buffer).	16.50
RO-2	C	3.96	788	Riparian buffer preservation along 788 lf of the right bank of Little Stony Creek with an existing mature wooded buffer width of 200 feet. Within this reach, riparian buffer preservation along 300 lf of the left bank with an existing mature wooded buffer width of 50 feet.	9.79
*RO-3	LP, P	7	2,980	Stream restoration along 1,762 lf of the South Fork of the Goose Creek, stream enhancement along 1,218 lf of the South Fork of the Goose Creek, and riparian buffer restoration and preservation along the entire project length.	N/A
RO-5	I	116	14,700	Riparian buffer preservation along both banks of 12,800 lf of Dry Branch and tributaries, with forested buffer along both banks Riparian buffer preservation along one bank of 1,900 lf of Dry Branch. Invasive species removal and reforestation along 800 lf of Dry Branch.	394
Totals		163.46	23,688	420.29	
ac - acre lf - linear feet LP - Pending finalization of land protection P - Planning / permitting C - Closed * Project includes wetland mitigation.				D - Pending delineation / assessment I - Restoration / Enhancement activities in progress M - Mitigation monitoring CA - Corrective actions necessary PC - Pending project closure	
Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).					
Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").					

Table 40 provides a summary of projects which have closed in the Roanoke River Basin.

**Table 40: Closed Project Summary for the Roanoke River Basin.**

Project ID	Corps Approval Date	Corps Closure Date	Amount Approved (\$)	Amount Unallocated (\$)	Non-tidal Wetland Credits	Tidal Wetland Credits	Stream Activity (lf)	
							Buffer preservation	Livestock exclusion
RO-1	6/7/05	8/5/08	180,000	174,251.70	0	0	5,220	0
RO-2	6/7/05	8/5/08	22,250	20,379.04	0	0	788	0
<b>Totals:</b>			<b>202,250</b>	<b>194,630.74</b>	<b>0</b>	<b>0</b>	<b>6,008</b>	<b>0</b>

### Project Summaries

The following section provides a detailed summary of each project located within the Roanoke River Basin for which the Corps has authorized funds during 2008. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project. Please refer to the 2007 Annual Report for detailed descriptions of projects approved prior to 2008.

#### **RO-1 Apple Orchard Mountain (Edwards)**

The purpose of this project was to conduct stream and the associated upland riparian buffer preservation at the Edwards property in Bedford County. The project was initiated by the Western Virginia Land Trust (WVLT) to preserve the pristine stream channels and buffers located on the 53 acre parcel. The funding for this project was approved by the Corps on June 7, 2005. The WVLT acquired the property in 2005 and transferred the property to the National Park Service (NPS) in 2007. Long-term protection of the project will be achieved through a Corps approved management agreement with NPS. No additional monitoring is required for this project.

This property was sold to the National Park Service in 2007. The proceeds from the sale, \$170,903.87, have been returned to the general balance of the Fund. The Conservancy requested final closure of this project in 2008. The Corps officially closed this project on 8/05/08. At that time, a total of \$3,347.83 in unspent funds was unallocated and made available to the general balance of the Fund.

#### **RO-2 Apple Orchard Mountain (City of Bedford)**

The purpose of this project was to conduct stream and the associated upland riparian buffer preservation at the City of Bedford property in Bedford County. The project was initiated by the Western Virginia Land Trust (WVLT) to preserve the pristine stream channels and buffers located on the 13.75 acre parcel. The initial funding for this project was approved by the Corps on June 7, 2005, with a second funding request approved on February 7, 2006. The WVLT acquired the property in 2006 and transferred to the National Park Service (NPS) in 2007. Long-term protection of the project will be achieved through a Corps-approved management agreement with NPS. No additional monitoring is required for this project.

This property was sold to the National Park Service in 2007. The proceeds from the sale, \$19,995.21, have been returned to the general balance of the Fund. The Conservancy requested final closure of this project in 2008. The Corps officially closed this project on 8/05/08. At that

time, a total of \$384.13 in unspent funds was unallocated and made available to the general balance of the Fund.

### **RO-3 Goose Creek-Roanoke Bedford County site**

The purpose of this project is to conduct a non-tidal wetland and stream restoration on a property in Bedford County. The area of interest for this mitigation project is approximately 33 acres and includes approximately 3,100 linear feet of South Fork Goose Creek, its adjacent floodplain and a steep bluff to the south that is forested and contains one small tributary to South Fork Goose Creek. These areas contain a mixture of wetland, converted wetland and upland. Sections of the South Fork of Goose Creek have an established forested buffer, while other sections have either no or minimal wooded buffer.

The Conservancy initially received approval for development of a conceptual mitigation plan for this site with respect to four specific areas. Area 1 encompasses an approximately 125-foot buffer on either side of the South Fork of Goose Creek and is approximately 17 acres. There are areas along this  $\pm 3,100$  linear foot reach where the stream has steep, severely eroding banks and large in-stream sand or gravel bars. Area 2 is approximately 12 acres and includes the southern pasture ( $\pm 8$  acres) and adjacent wetlands and uplands ( $\pm 4$  acres). It is one of two areas with the best opportunities to restore, enhance and establish wetlands. The area is underlain by a mapped hydric soil (Chewacala loam, 0-2% slopes). This field is actively hayed or cut every year so the vegetation is being maintained as a mixture of emergent wetlands and herbaceous uplands. There is evidence that the area had been used for livestock grazing at some point as there are a few fence lines and the areas of the floodplain left to regenerate naturally had the common weedy species associated with grazing (e.g. Multiflora rose and Autumn olive). An old beaver dam which supported a large wetland feature between the pasture and the forest is identified on the Concept Map at the eastern edge of Area 2. This area contains a mosaic of forested and open/emergent wetlands. The beaver dam blocked the area that drained from west to east along the toe of slope; however, it has been abandoned and there is evidence of drainage. Since the outfall is down cutting to meet the elevation of Goose Creek (which itself has become incised) there is the possibility that it will eventually drain much of the wetlands complex and considerably reduce its size and usefulness as wildlife habitat. Area 3 is located north of Goose Creek and is approximately 8.3 acres in area. This field is in a similar land use as Area 2, and a similar set of strategies could be used to restore and enhance wetlands in each area. Of the two potential wetland restoration areas, this one likely involves a higher risk as the hydrologic inputs are fewer. Area 4 includes a mixture of forested upland and wetland preservation and is approximately 26 acres in area. Much of the forest in this section is intermediate to mature aged hardwoods that would provide a buffer function primarily to the wetlands, but also would expand the buffer to Goose Creek.

The Conservancy requested and received approval for funds to complete a hydrology study on the property on February 8, 2008. The hydrology study was conducted and completed during the growing season of 2008. Results from the study and discussions with the landowner led to a narrowed scope of work that focuses on Areas 1 and 2 only. In the fall of 2008, the Conservancy requested bids from a number of qualified designers/contractors to implement the creation of 4 acres of wetlands, restoration of 1,762 lf of stream along the South Fork of the Goose Creek and enhancement of 1,218 lf along the stream. Based on those bids, the Conservancy requested funding to fully implement the acquisition, design, construction, and monitoring of this site. Approval was given on December 16, 2008. The Conservancy intends to move forward with acquisition of a conservation easement in spring 2009 and contract for design and implementation of the restoration activities in the spring and summer of 2009.

#### **RO-4 Turkeycock Mountain (Grassy Fork site)**

The purpose of this project is to conduct an appraisal on an approximately 350-acre property in Franklin County along Grassy Fork. Funding for this project was approved by the Corps on February 8, 2008. There is significant, high quality stream length and riparian buffer on the property along with very unique wetland habitats which are suitable for preservation. The property encompasses approximately two miles of Grassy Fork and an unnamed tributary to Crab Creek. There are numerous springs and seeps throughout the property. Extensive floodplain wetland and bog habitats are found on the property. There are six Heritage Element occurrences identified within this stream/wetland complex of the property including a stonefly, four caddisflies, and a community type-Mountain/Piedmont acidic seepage swamp. There are also a number of uncommon plants found at this site. The property appraisal was completed in 2008 and negotiations continue with the landowner.

#### **RO-5 Poor Mountain (Sanzone)**

The purpose of this project is to conduct a stream and riparian buffer preservation and enhancement project on Dry Branch, a tributary of the Roanoke River, in Roanoke County, Virginia. The landowner is willing to donate a conservation easement on 510 acres of his 590-acre property, which will establish stream preservation buffers, mostly 200 feet wide. The funding for this project was approved by the Corps on November 2, 2008. The Conservancy acquired the easement in December 2008.

The 510-acre tract is entirely forested and extends from the top of Poor Mountain to the bottom of the slope. The forest is primarily comprised of maturing chestnut and red oaks, characteristic of drier sites. Sections of the upper slopes are dominated by Virginia and pitch pines. The eased portion of the tract contains 14,700 linear feet of streams. The property is located 2 miles from the Roanoke River, joining it near an element occurrence of the Roanoke Logperch, a federally-endangered species. This section of the Roanoke River has also been designated a Stream Conservation Unit by the Virginia Division of Natural Heritage. All stream channels on the property are in stable condition and require no restoration or enhancement activities. The surrounding properties are predominantly mature forests with some scattered residential development on the lower slopes. A large portion of the Dry Branch watershed is included in the eased area, with minimal development potential upstream due to the surrounding property's slope and ownership. Dry Branch and the unnamed tributaries are located within a highly confined valley with very steep slopes along the majority of the length of the channel. The system is very stable and would likely be classified as an A and B channel system, dominated by step pools and bedrock grade control. The streams provide significant habitat diversity.

The project seeks to accomplish preservation of approximately 13,200 linear feet of both banks of 1<sup>st</sup> and 2<sup>nd</sup> order tributaries to the Roanoke River and 1,500 linear feet of one bank of a tributary. All banks are currently buffered with an existing mature wooded buffer width of 200 feet. The easement would establish 200-foot buffers on all banks except one section of Dry Branch in the SE corner of the property; this section would have a 100-foot buffer on one side, and a 200-foot buffer on the other. For reporting purposes, the proposed no-touch riparian buffer is approximately 116 acres.

The Conservancy has also proposed the enhancement of 2 acres of riparian buffer along 800 linear feet of one bank of Dry Branch. The site was selectively cut approximately 10 years ago, and this area in particular was mostly cleared. The existing vegetation is primarily tree-of-heaven (*Ailanthus altissima*), now 40 feet-tall, and invasive weeds. For the proposed project, the trees

will be felled, the debris burned, and the area planted with hardwood seedlings and native shrubs on a 9x10 spacing (484 trees per acre). TNC will plant a mixture of northern red oak, white oak, sycamore, mulberry, persimmon, poplar, eastern white pine and shortleaf pine and native shrubs. Four-foot tree tubes with stakes and mats will be used for the hardwoods to limit deer browse and to facilitate the herbicide application. A layer of winter wheat or other annual cover crop will also be sown following burning in order to minimize the establishment of new weeds. Follow-up treatments will include additional herbicide application for 2 years, if necessary. The Conservancy anticipates initiating the enhancement activities in early 2009, followed by invasives control throughout 2009, and final planting in 2010.

## Shenandoah River Basin

The Shenandoah River Basin is comprised of four HUCs (02070004, 02070005, 02070006, and 02070007) encompassing the headwaters of the Shenandoah River to the Potomac River. This basin is located within the Conservancy's Central Appalachian Forest Ecoregion. Conservation targets include Blue Ridge stream and tributaries, Central Appalachian mixed hardwood forest matrix, cave invertebrate communities, endangered wood turtles, freshwater mussels, and sportfish and nongame fish populations.

The projects discussed in this section serve as mitigation for permitted impacts within the Shenandoah River Basin for which the Fund was used as compensatory mitigation. All approved projects through 2008 are listed on the below tables. Complete project descriptions for projects approved prior to 2008 may be found in the 2007 Annual Report. Updates are given for each project as applicable. Complete descriptions of projects approved during 2008 are provided below.

The following table provides a summary of projects for which funds were approved in the Shenandoah River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type.

**Table 41: Approved Project Summary for the Shenandoah River Basin.**

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects (\$)	Tidal Wetland Projects (\$)	Stream Projects (\$)
SH-1	Cedar Creek (Mowery)	M	9/28/06	0	0	1,576,000
SH-2	Blacks Run (City of Harrisonburg – Purcell Park)	M	12/7/06	0	0	496,535
		M	9/24/08	0	0	130,000
SH-3 / UJ-3	Laurel Fork (Rifle Ridge Farm, LLC)	M	11/19/07	0	0	1,034,749
SH-4	Shenandoah Mountain/Cow Knob Site	M	8/28/08	535,836	0	0
SH-5	Cedar Creek Site	M	8/28/08	0	0	150,000
<b>Totals</b>				<b>535,836</b>	<b>0</b>	<b>3,387,284</b>
<b>Grand Total</b>				<b>3,923,120</b>		
M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey						

The following table summarizes the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Shenandoah River Basin. In addition the table provides the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

**Table 42: Non-Tidal Wetland Project Summary for the Shenandoah River Basin.**

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation	Proposed
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres	Acres	Credits
SH-3 / UJ-3	D	0	11	0	0	0	11	1.10
SH-4	LP, P	10	0	0	6	0	16	10.40
SH-5	LP	0	2	0	0	0	2	0.20
Sub-totals		10	13	0	6	0	29	11.70
Total Acres of Non-Tidal Impacts					8.07			
Total Mitigation Liability					9.51			
Total Proposed Credits					11.70			
Percent of Wetland Acreage Replacement					123.9			
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress				
P - Planning / permitting				M - Mitigation monitoring				
D - Pending delineation / assessment				CA - Corrective actions necessary				

As noted in Section II, the Fund has been used to mitigate for 13,960 linear feet of permitted stream impacts in the Shenandoah River Basin through 2008. The following tables summarize the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Shenandoah River Basin.



**Table 43: Pre-USM Stream Project Summary for the Shenandoah River Basin.**

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
SH-1	M	16	1,700	Riparian buffer planting 200 feet wide along each bank of 1,700 linear feet of Buffalo Marsh Run. Channel banks along this reach stabilized with live stakes.	94
SH-2 <sup>+</sup>	P	13.39	3,761	Priority 1 relocation of 2,200 lf and Priority 2 restoration of 1,175 lf of Blacks Run. Priority 2 restoration along 830 lf of Seibert Creek and along 540 lf of an unnamed tributary to Seibert Creek. Riparian buffer planting ranging from 20 to 200 feet wide along both banks of Blacks Run, 20 to 80 feet wide along both banks of Seibert Creek, and 50 to 110 feet wide along both banks of the unnamed tributary. Funding for this project is both pre-USM and USM.	0
SH-3 / UJ-3*	D	475.60	33,915	Riparian buffer preservation along 13,144 lf of the both banks of Laurel Fork, and along left bank of 3,847 lf of Collins Run, and along both banks of 4,563 lf of Buck Creek. Stream system preservation along both banks of 8397 lf of three unnamed tributaries to Laurel Fork; both banks of 2255 lf of an unnamed tributary to Laurel Fork; both banks of 6108 lf of Blights Run; and both banks of 3,046 lf of two unnamed tributaries to Buck Creek.	1,092
<b>Totals</b>		<b>504.99</b>	<b>39,376</b>		<b>1,186</b>
ac - acre lf - linear feet LP - Pending finalization of land protection P - Planning / permitting  * Project includes wetland mitigation. * Project includes pre-USM and USM funding.  Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture). Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").				D - Pending delineation / assessment I - Restoration / Enhancement activities in progress M - Mitigation monitoring CA - Corrective actions necessary PC - Pending project closure	

Table 44 details the impacts and mitigation activities funded by revenues accrued under the Unified Stream Methodology.

**Table 44: USM Stream Impacts and Mitigation Summary for the Shenandoah River Basin.**

Project Information		Stream Activity (lf)			Upland Buffer (Ac)		Mitigation	Additional	Proposed
Project ID	Status	Rest/Enh	Pres	Livestock	Rest	Pres	Acres	Protected	Credits
SH-2 <sup>+</sup>	I	984.54	0	0	1.72	1.78	3.51	0	1,791
SH-5	LP	0	1,519	0	0	10.5	10.5	10	465
Totals		984.54	1,519	0	1.72	12.28	14.01	10	2,256
Total Linear Feet of Impacts (lf)1,832									
Total Compensation Required (TCR)1,646.20									
Total Proposed Credits (CC)2,256									
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress					
P - Planning / permitting				M - Mitigation monitoring					
D - Pending delineation / assessment				CA - Corrective actions necessary					
				PC - Pending project closure					
+ Project includes pre-USM and USM funding									
Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture).									

### Project Summaries

The following section provides a detailed summary of each project located within the Shenandoah River Basin for which the Corps has authorized funds during 2008. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project. Please refer to the 2007 Annual Report for detailed summaries of projects approved prior to 2008.

#### SH-1 Cedar Creek (Mowery)

The purpose of this project is to plant a woody riparian buffer and stabilize the stream banks with live stakes at the Mowery property (also known as the Ogden's Cave project) in Frederick County. The Department of Conservation and Recreation (DCR) Natural Heritage Program identified this site and approached the Conservancy to complete this project through the Fund. The Virginia Cave Conservancy was also involved with securing acquisition of this project. The funding for this project was approved by the Corps on September 28, 2006. The Conservancy proposed to exclude cattle from the stream through the purchase of the property and plant a woody riparian buffer and live stakes along approximately 1,700 linear feet of Buffalo Marsh Run. The Conservancy purchased the 110-acre site on December 27, 2006.

The live stake and riparian buffer planting was completed in spring of 2007. The first year monitoring event was completed in 2008. The results of the monitoring indicated that the live stakes and riparian buffer plantings are meeting the success criteria. It was noted that survival of trees planted with Tubex and VisPore mats was noticeably greater than survival of those trees planted without protection. In addition, the invasive spotted knapweed (*Centaurea stoebe*) was found in two of the eight riparian buffer monitoring stations. The Conservancy will work with

the Virginia Department of Conservation and Recreation (DCR) Natural Heritage Program to develop and implement an invasive species management plan in 2009 to manage the spotted knapweed population.

#### **SH-2 Blacks Run Site**

The purpose of this project is to conduct stream restoration activities at a park in the City of Harrisonburg. The Canaan Valley Institute (CVI) identified this site and approached the Conservancy for completion of this project through the Fund. The initial funding for this project was approved by the Corps on December 7, 2006. An additional funding request to conduct restoration activities and mitigation monitoring was approved by the Corps on September 24, 2008. The project mitigates for stream impacts using both pre-USM and USM funds.

The Conservancy proposed to conduct restoration activities along approximately 3,375 linear feet of Blacks Run, 830 linear feet of Seibert Creek, and 540 linear feet of an unnamed tributary to Seibert Creek. The City of Harrisonburg donated a conservation easement in 2008 on the riparian corridors (16.90 acres) on the property to be held by Valley Conservation Council (VCC). Long-term protection of the site will be accomplished through the monitoring and enforcement of the easement by the VCC. Stream monitoring events are scheduled for monitoring years 1, 2, 3, 5, 7, and 10, with reports submitted to the Corps. The first year of monitoring will be conducted in 2009.

The Conservancy anticipates that the restoration will be implemented in the winter/spring of 2009.

#### **SH-3 / UJ-3 Laurel Fork (Rifle Ridge Farm, LLC)**

The purpose of this project is to preserve considerable stream length and stream systems as well as approximately 11 acres of wetlands on the Rifle Ridge Farm, LLC property in Highland County. The Conservancy had been working with the landowner for many years to finalize the preservation of this 1,683 acre tract along Laurel Fork. The Conservancy was able to purchase an easement on this property through use of the Fund. The funding for this project was approved by the Corps on November 19, 2007. Easement terms protect the numerous stream systems on the property within a 100' or greater riparian buffer through most of the property. Long-term protection of the site will be accomplished through the monitoring and enforcement of the easement by the Conservancy.

The entire stream length on the property and the wetland acreage must be determined through assessment prior to project closure. The Conservancy anticipates completing this in 2009. The easement on the property will be monitored annually by the Conservancy.

#### **SH-4 Shenandoah Mountain/Cow Knob Site**

The purpose of this project is to conduct non-tidal wetland restoration activities on a portion of a 200-acre property located in Fulks Run, Virginia. The site drains to the North Fork of the Shenandoah River. The funding for this project was approved by the Corps on August 28, 2008. The mitigation area will be placed under a conservation easement to be held by the Valley Conservation Council (VCC). The landowner is also considering placing a conservation easement on the entire 200-acre property. Long-term protection of the site will be accomplished through the monitoring and enforcement of the easement by VCC.

A 16-acre portion of the agricultural field on the property is underlain by hydric soils that have been farmed for some time to grow annual commodity crops. This portion of the property is currently used for pasture and as a loafing lot. This area has been ditched in the past and there are remnants of an old-style terracotta drain tile system. The drainage system is partially functioning and there is possibly a small remnant wetland already existing at the site. Based on these findings and the cropping history, the portion of the property slated for restoration is believed to be, in part, a prior converted wetland. The persistent presence of cattle has severely reduced ecological functioning of this area as a wetland. There is little to no characteristic wetland vegetation. The hydrologic regime is complex, and includes groundwater seepage from nearby uplands, occasional inundation by river water, and subsurface and surface flows during precipitation events. The area is seasonally saturated and, on occasion, temporarily flooded.

Based upon available information and field assessments, the property contains excellent potential for wetland restoration, wetland creation and enhancement. The compensatory mitigation objective is to restore the natural hydrologic regime and vegetative structure roughly equivalent to its historic condition, which was most likely a forested palustrine wetland complex, dominated by a mix of hardwood species including hydrophytic oak (*Quercus*) and associated hydrophytic species such as red maple, gum and willow. All field ditches and the existing pond will be eliminated and additional remedies will be implemented as needed to re-establish wetland hydrology, provide livestock exclusion from the gained wetland including an appropriate buffer, and re-establish appropriate wetland vegetation. The project will include a total of 16 acres of wetland mitigation, including an appropriate mix of upland buffer (100 foot minimum) and emergent and forested wetland components.

Restoring functional wetlands at this site will reduce sedimentation and improve water quality in the North Fork of the Shenandoah River. The project will also reduce nutrient loading directly into ground and surface waters resulting from extensive cattle grazing, and will restore wetland functioning and wildlife habitat that has been lost due to agricultural activities. The North Fork of the Shenandoah River has impaired reaches along its length. Wetland restoration activities in this basin will benefit the Shenandoah watershed and will contribute to goals established for the Chesapeake Bay environment and water quality.

Improved wetland function on this site will enhance relatively good functioning ecologic elements in the near proximity. The site is within the Shenandoah Mountain/Cow Knob Portfolio Conservation Area identified as a priority area by TNC. Ridges surrounding the property are primarily US Forest Service tracts and for the most part have unbroken forest cover. The National Wetlands Inventory shows a substantial number of riverine wetland areas in the North Fork corridor within approximately a 1.5 mile distance of the site as well as freshwater palustrine emergent wetlands. The addition of this restored site will increase wetland acreage in the immediate area and may encourage future private restoration efforts. A query of the Virginia Department of Conservation Natural Heritage database of natural heritage resources for the North Fork of the Shenandoah River reveals a number of resources of concern including the Virginia Big Eared bat (*Corynorhinus townsendii virginianus*), the Indiana Bat (*Myotis sodalis*) and other flora and fauna of concern. A subwatershed query for North Fork of the Shenandoah River – Capon Run (within 15 miles of the restoration site) reveals presence of the Virginia Big-eared Bat (*Corynorhinus townsendii virginianus*) and the Wood Turtle (*Glyptemus insculpa*). Restoration at the project site will potentially increase habitat and food supply for these natural heritage elements.

The Conservancy anticipates completion of the restoration activities in 2009.

### **SH-5 Cedar Creek Site**

The purpose of this project is to conduct a wetland, stream, and buffer preservation project on Buffalo Marsh Run adjacent to the Ogden's Cave property in Frederick County, Virginia. The site will help provide water quality, wildlife and bird habitat benefits to Buffalo Marsh Run, a tributary of Cedar Creek and the Shenandoah River. The Corps approved funding to assist the Virginia Department of Conservation and Recreation (DCR) with purchase of one or both parcels of land comprising this property on August 28, 2008. The site is immediately downstream and adjacent to the Ogden's Cave Natural Area Preserve, SH-1. The property will be owned by DCR and protected with a deed of dedication which will require the property to be managed with the primary objectives of protecting stream water quality, natural heritage resources, and other native plants and animals. The project mitigates for stream impacts using USM funds.

The 22-acre parcel is entirely forested and contains a 2-acre emergent wetland complex along the floodplain of Buffalo Marsh Run. The site was formerly used to pasture cattle, though never heavily. It has not been used for cattle in nearly 10 years. Mature forest and an intact buffer are present throughout the property. Mitigation activities at the site include the preservation of approximately 1,519 lf of both banks of Buffalo Marsh Run, two acres of emergent wetland, and up to 10.5 acres of riparian buffer. Up to 10 acres would be considered "Additional Protected Acreage."

Currently, Buffalo Marsh Run is impacted by grazing, trampling, and nutrient loading associated with cattle farming along much of its course. However, the area is experiencing rapid residential and commercial growth. Thus the stream is potentially threatened with the adverse effects of increased impervious surfaces, lawn chemicals, highway runoff, and similar problems.

Freshwater analyses have identified Cedar Creek as a priority conservation area. It is described as in good condition due to the strong springs and forested tributaries. Limited development and protection of surrounding areas aid the conservation of this watershed. The headwaters are in very good condition and both wood turtles and freshwater mussels occur along Cedar Creek. Wood turtles have been identified at or near this site.

The entire stream length on the property and the wetland acreage must be determined through delineation or assessment prior to project closure. The Conservancy anticipates completing the delineation and project closure in 2009.

## Tennessee River Basin

The Tennessee River Basin is comprised of six HUCs (06010205, 06010206, 06010101, 06010102, 05070201, and 05070201) encompassing the headwaters of the Clinch, Holston, and Powell Rivers draining south into Tennessee. This basin is located within the Conservancy's Cumberland and Southern Ridge Valley Ecoregion. Conservation targets include endemic mussels and associated assemblages, Appalachian bogs, fens and seeps, Southern Appalachian forest matrix, upper Tennessee fish community, bats, karst communities, calcareous river-fronting slope communities and limestone and dolomite barrens.

The projects discussed in this section serve as mitigation for permitted impacts within the Tennessee River Basin for which the Fund was used as compensatory mitigation. All approved projects through 2008 are listed on the below tables. Complete project descriptions for projects approved prior to 2008 may be found in the 2007 Annual Report. Updates are given for each project as applicable. Complete descriptions of projects approved during 2008 are provided below.

The following table provides a summary of projects for which funds were approved in the Tennessee River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type.

**Table 45: Approved Project Summary for the Tennessee River Basin.**

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects (\$)	Tidal Wetland Projects (\$)	Stream Projects (\$)
TN-1	Gray's Island (Holston Land Company)	M	3/14/97	0	0	7,000
TN-2	Barns Chapel (Garry Smith Enterprises, Inc.)	M	3/28/06	0	0	305,000
TN-3	Barns Chapel (Atwell)	M	3/28/06	39,000	0	0
TN-4	Upper Clinch River Site	M	4/23/06	3,000	0	3,000
TN-5	Pinnacle (Rich)	M	6/16/08	0	0	43,090
TN-6	Rich Mountain Site	M	11/2/08	43,000	0	0
<b>Totals</b>				<b>85,000</b>	<b>0</b>	<b>358,090</b>
<b>Grand Total</b>				<b>443,090</b>		
M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development;						
F - Feasibility Study; BS - Boundary Survey, PC - Pending Closure, CL - Closed						

Table 46 provides a summary of projects which have closed in the Tennessee River Basin.

**Table 46: Closed Project Summary for the Tennessee River Basin.**

Project ID	Corps Approval Date	Corps Closure Date	Amount Approved	Amount Unallocated	Wetland Credits	Stream Activity	
						Buffer Preservation	Livestock Exclusion
TN-1	3/14/97	7/27/07	7,000	0	N/A	6,000 lf	6,000 lf
TN-3	3/28/06	11/16/07	39,000	1,366.34	1.44	N/A	N/A
TN-4	4/23/06	7/27/07	6,000	0	N/A	N/A	N/A
<b>Totals</b>			<b>52,000</b>	<b>1,366.34</b>	<b>1.44</b>	<b>6,000</b>	<b>6,000</b>

The following table summarizes the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the Tennessee River Basin. In addition, the table provides the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

**Table 47: Non-Tidal Wetland Project Summary for the Tennessee River Basin.**

Table 4-7: Non-Tidal Wetland Project Summary for the Tennessee River Basin.									
Project Information		NT Wetland (Ac)			Upland Acres		Mitigation Acres	Proposed Credits	Additional Protected Acreage
Project ID	Status	Rest	Pres	Enh	Rest	Pres			
TN-3	C	0	0	4.01	0	2.11	6.12	1.44	0
TN-6	I	0	0	7.90	0	15.20	23.10	3.39	0
Sub-totals		0	0	11.91	0	17.31	29.22	4.83	0
Total Acres of Non-tidal Impacts						18.29			
Total Mitigation Liability						26.65			
Total Proposed Credits						4.83			
Percent of Wetland Acreage Replacement						0			
LP - Pending finalization of land protection					I - Rest/Enh/Creation activities in progress				
P - Planning/permitting					M - Mitigation monitoring				
D - Pending delineation/assessment					CA - Corrective action necessary				
					PC - Pending project closure				

As noted in Section II, the Fund has been used to mitigate for 5,359 linear feet of permitted stream impacts in the Tennessee River Basin through 2008. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the Tennessee River Basin. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

**Table 48: Stream Project Summary for the Tennessee River Basin.**

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
TN-1	C	15.50	6,000	Riparian buffer preservation of 4,000 lf along the right bank of the Clinch River and 2,000 lf along both banks of Cub Creek with an existing mature wooded buffer ranging from 75 to 100 feet wide. Livestock exclusion fencing installed to protect the same reaches of the Clinch River and Cub Creek.	284.50
TN-2	M	6.70	1,580	Priority 1 relocation of 1,580 lf of Rattle Creek. Riparian buffer planting ranging from 35 to 250 feet along each bank for the length of the channel. Reconfiguration of an off-line pond and buffer plantings approximately 25 feet wide from the pond. Livestock exclusion fencing installed to protect 1,580 linear feet of the stream and the pond.	0
TN-5	D, PC	9.75	3,393	Stream channel and riparian buffer preservation along 3,393 linear feet of the Clinch River. Riparian buffer preservation will include an existing forested buffer ranging from 143 to 200 feet wide.	19.04
Totals		31.95	10,973		303.54
ac - acre lf - linear feet LP - Pending finalization of land protection P - Planning / permitting C - Closed * Project includes wetland mitigation.				D - Pending delineation / assessment I - Restoration / Enhancement activities in progress M - Mitigation monitoring CA - Corrective actions necessary PC - Pending project closure	
Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture). Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").					

**Project Summaries**

The following section provides a detailed summary of each project located within the Tennessee River Basin for which the Corps has authorized funds during 2008. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

**TN-1 Gray's Island (Holston Land Company)**

This project was officially closed on July 27, 2007. For details on the project see the 2007 Annual Report.

**TN-2 Barns Chapel (Garry Smith Enterprises, Inc.)**

The purpose of this project is to conduct stream restoration activities and exclude livestock from a stream and pond at the Smith property located near Abingdon in Washington County. The funding for this project was approved by the Corps on March 28, 2006. The Conservancy proposed to install livestock exclusion fencing, reconfigure a small pond, and conduct Priority 1 relocation on approximately 1,580 linear feet of Rattle Creek located on the property. The landowner donated a conservation easement, which is held by the Conservancy, on the riparian



corridor and the area surrounding an off-line pond (total of 6.70 acres of “no-touch” area) on April 26, 2006. Long-term protection of the site is accomplished through the monitoring and enforcement of the easement by the Conservancy. Stream monitoring events are scheduled for monitoring years 1, 2, 3, 5, 7, and 10 with reports submitted to the Corps.

The first year geomorphologic and vegetation monitoring event was completed in 2008. The results of the geomorphologic monitoring indicated that the site is performing as designed, and the streambanks and streambed are stable. Vegetation monitoring indicated the buffer and banks are well vegetated, with an 83% survival rate of trees and 90% ground cover in the buffer. The wet areas at the toe of the mountain slope are developing into wetlands and should be covered with emergent vegetation by the end of the next growing season. A few occurrences of the invasive multiflora rose (*Rosa multiflora*) were noted. This invasive is not a problem at this point, but the Conservancy will continue to monitor the species and implement an invasives management plan if needed.

### **TN-3 Barns Chapel (Atwell)**

This project was officially closed on November 16, 2007. For details on the project see the 2007 Annual Report.

### **TN-4 Upper Clinch River Site**

This project was officially closed without mitigation credits on July 27, 2007. For details on the project see the 2007 Annual Report.

### **TN-5 Pinnacle (Rich)**

The purpose of this project is to complete a stream mitigation project on the Rich Tract in Russell County, Virginia. Stream preservation will be conducted on approximately 3,393 linear feet of stream channel. Funding for this project was approved by the Corps on June 16, 2008. The landowner sold the Conservancy 28.29 acres of property, providing a buffer ranging from approximately 143 feet to over 200 feet adjacent to the main stem of the Clinch River. The proposed mitigation area is approximately 9.75 acres. The additional 19.04 acres purchased will be reported as “additional protected acreage.” Long-term protection of the site will be achieved through a deed restriction. The Conservancy intends to transfer ownership of the property to the Virginia Department of Conservation and Recreation.

The Rich project was identified and presented to TNC by staff from Virginia Department of Conservation and Recreation as a very important target for acquisition due to its significant frontage on the Clinch River and its proximity to both the Pinnacle and Cleveland Barrens State Natural Areas. Approximately half of the property is steep rich woodlands occurring over limestone substrate. At least two state rare plants have been located on the property: Carey saxifrage (*Campanula rotundifolia*) and glade spurge (*Euphorbia purpurea*).

Approximately 3,393 linear feet of Clinch River is located on the Rich property. The stream enters the tract from the north and leaves the tract from the south and makes up the eastern boundary of this tract. Only the western bank of the channel is located on the property. There is a mature woody buffer along the majority of the west bank of this river section and a complete, mature woody buffer on the east bank across from this property.

The Conservancy will request closure of the project following transfer to DCR and completion of

a surface water delineation.

#### **TN- 6 Rich Mountain site**

The purpose of this project is to complete a 23.1-acre wetland mitigation project on a tract in Russell County, Virginia. Funding for this project was approved by the Corps on November 2, 2008. Wetland enhancement activities, via cattle exclusion, will be conducted on approximately 7.9 acres of existing calcareous fen wetlands with an additional 15.2 acres of forested buffer preservation on the adjacent uplands. The proposed wetland mitigation area is wholly contained within an area currently held under a permanent forest management easement by the Conservancy. Additional restrictions will be added to the existing easement to meet mitigation requirements. The wetlands on the property are heavily impacted by cattle grazing and watering. In addition to fencing cattle out of the wetlands and establishing or maintaining a forested buffer, an alternative watering system will be installed along the Rich Mountain ridgeline. This will protect these high elevation wetlands that are currently impacted by cattle grazing and watering needs.

The project area contains approximately 8.0 acres of groundwater-controlled, non-alluvial wetlands that have been identified for potential enhancement. All of these wetlands are on lands which are currently grazed and impacted by cattle. These wetlands are seep driven and contain species that are indicative of calcareous fens, an identified globally rare habitat. Golden ragwort (*Packera aurea*), swamp lousewort (*Pedicularis lanceolata*), and royal fern (*Osmunda regalis* var. *spectabilis*) have been identified in the wetland enhancement areas.

The Conservancy is negotiating the terms of the restrictions that will be placed on the existing forest management easement. Fencing of the site and installation of the alternate water source are expected to occur in 2009.

## York River Basin

The York River Basin is comprised of three HUCs (02080105, 02080106, and 02080107) encompassing the headwaters of the Mattaponi, Pamunkey and York rivers draining east into the Bay. This basin is located within both the Conservancy's Piedmont and Chesapeake Bay Lowland ecoregions. Conservation targets include tidal freshwater systems, small Piedmont streams and tributaries, bald cypress forests, anadromous fishes, migratory land birds and raptors, seepage wetlands, Coastal Plain mixed pine-hardwood forest matrix, and calcareous forests.

The projects discussed in this section serve as mitigation for permitted impacts within the York River Basin for which the Fund was used as compensatory mitigation. All approved projects through 2008 are listed on the below tables. Complete project descriptions for projects approved prior to 2008 may be found in the 2007 Annual Report. Updates are given for each project as applicable. Complete descriptions of projects approved during 2008 are provided below.

The following table provides a summary of projects for which funds were approved in the York River Basin. The table includes the project name and corresponding identification number, proposal information (purpose of the request for funding, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. A detailed summary of each project is included in the section below.

**Table 49: Approved Project Summary for the York River Basin.**

Project ID	Project Name	Purpose of Proposal	Corps Approval Date	Funds Authorized		
				Non-Tidal Wetland Projects (\$)	Tidal Wetland Projects (\$)	Stream Projects (\$)
YK-1	Po River (Leonard)	M	3/28/03	40,000	0	0
YK-2	Mattaponi River (Gwathmey 1)	M	2/5/04	50,000	0	0
		M	2/20/04	909,200	0	0
YK-3	Dragon Run (Beldon)	M	8/5/04	43,800	0	43,800
CB-8 / YK-4	Upper Crab Neck (BP North America)	M	4/21/05	7,500	0	0
			2/22/07	1,068	0	0
YK-5	Cumberland Marsh (Healthvest, Inc.)	F	7/1/05	12,500	0	12,500
		M	2/22/07	73,375	1,000	223,125
YK-6	Mattaponi River Site	A	8/12/05	45,300	0	30,200
		M	5/2/06	6,570	0	4,380
YK-7	Mattaponi River (Gwathmey 3)	M	6/22/06	22,145	0	0
YK-8	Mattaponi River (Bach 1)	A	8/11/06	6,500	0	0
		M	12/15/06	192,100	0	33,900
YK-9	Mattaponi River Site 2	M	12/15/06	0	0	14,077
YK-10	Mattaponi River (Bach 2)	M	8/10/07	17,567	0	0
<b>Totals</b>				<b>1,427,625</b>	<b>1,000</b>	<b>361,982</b>
<b>Grand Total</b>				<b>1,790,607</b>		
M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey						

The following table summarizes the status, proposed mitigation activity type and associated acreage, and proposed credit for each non-tidal and tidal wetland project pursued by the Conservancy to serve as mitigation for impacts in the York River Basin. In addition, the table provides the amount of impact acres in the basin, the total mitigation liability in credits, and a measure of the wetland area that is proposed to be replaced through restoration or creation activities in comparison to the amount impacted. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

**Table 50: Non-Tidal Wetland Project Summary for the York River Basin.**

Project Information		NT Wetland (Ac)			Upland (Ac)		Mitigation Acres	Proposed Credits	Additional Protected Acreage	
Project ID	Status	Rest/Cr	Pres	Enh	Rest	Pres				
YK-1	D,PC		6.1			13.9	20	1.31		
YK-2	M	67.5	48.57	2.5	33	53.43	205	78.06		
*YK-3	PC		2.11			2.15	4.26	0.32	34.32	
CB-8/ YK-4	PC		67.4			74.8	142.2	10.48		
*YK-5	P	1.9					1.9	1.90		
*YK-6	LP		36				36	3.60	24	
YK-7	D,PC					18	18	0.90		
Sub-totals		69.40	160.18	2.5	33.00	162.28	427.36	96.57	58.32	
Total Acres of Non-Tidal Impacts										9.07
Total Mitigation Liability										17.24
Total Proposed Credits										96.57
Percent of Wetland Acreage Replacement										765.2
LP - Pending finalization of land protection				I - Restoration/Enhancement/Creation activities in progress						
P - Planning / permitting				M - Mitigation monitoring						
D - Pending delineation / assessment				CA - Corrective actions necessary						
				PC - Pending project closure						
* Project includes stream or tidal wetland mitigation.										

**Table 51: Tidal Wetland Project Summary for the York River Basin.**

Project Information		Tidal Rest	SAV Rest	Oyster Rest	Tidal Enh	Tidal Pres	Upland Buffer Pres	Mitigation Acres	Proposed Credits
Project #	Status								
*YK-5	P	3.40	0	0	0	0	0	3.40	3.40
Acre Sub-totals		3.40	0	0	0	0	0	3.40	3.40
Credit Sub-totals		3.40	0	0	0	0	0		
Total Acres of Tidal Impacts							0.00		
Total Mitigation Liability							0.00		
Total Proposed Credits							3.40		
Percent of Wetland Acreage Replacement							N/A		
LP - Pending finalization of land protection					I - Rest/Enh/Creation activities in progress				
P - Planning/permitting					M - Mitigation monitoring				
D - Pending delineation/assessment					CA - Corrective action necessary				
					PC - Pending project closure				
* Project includes stream or non-tidal wetland mitigation									

As noted in Section II, the Fund has been used to mitigate for 1,282 linear feet of permitted stream impacts in the York River Basin through 2008. The following table summarizes the status, the protected stream length, and a description of the proposed or completed mitigation activities with the associated channel length for each activity for each stream project pursued by the Conservancy to serve as mitigation for impacts in the York River Basin. The table does not include projects for which funding was approved for initial expenditures such as land appraisals, boundary surveys, feasibility studies, or concept plan development.

**Table 52: Stream Project Summary for the York River Basin.**

Project ID	Project Status	Stream Mitigation Area (ac)	Channel Length in Mitigation Area (lf)	Mitigation Activity Description	Additional Protected Acreage
YK-3*	PC	7.42	978	Riparian buffer preservation of 978 lf along the right bank of Dragon Run with an existing mature wooded buffer extending 200 feet from the edge of the protected stream and wetland complex.	Reported under the wetlands summary
YK-5*	P	8	5,800	Dam removal and stream restoration of 2,200 lf of channel and riparian buffer restoration along 3,600 lf along Holt's Creek the Pamunkey River.	0
YK-6*	LP	12	4,500	Riparian buffer preservation along 4,500 lf of one bank of the Mattaponi River with existing forested buffer extending 200 feet from the mitigation area.	Reported under the wetlands summary
YK-9	D,PC	182	11,500	Riparian buffer preservation of 11,500 lf along the right bank of the Mattaponi River with an existing mature wooded buffer ranging from 175 to 1,400 feet wide.	132.72
<b>Totals</b>		<b>209.42</b>	<b>22,778</b>		<b>132.72</b>
Ac - acre lf - linear feet LP - Pending finalization of land protection P - Planning / permitting * Project includes wetland mitigation. Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture). Buffer widths are sufficient to avoid mitigation value conflicts between wetlands and streams ("double-dipping").				D - Pending delineation / assessment I - Restoration / Enhancement activities in progress M - Mitigation monitoring CA - Corrective actions necessary PC - Pending project closure	

**Project Summaries**

The following section provides a detailed summary of each project located within the York River Basin for which the Corps has authorized funds through 2008. The summaries include a description of the mitigation activities, partnering opportunities, long-term protection measures, conservation and ecological benefits, and current status of each project.

**YK-1 Po River (Leonard)**

The purpose of this project is to conduct a non-tidal wetland and upland buffer preservation project at the Po River property in Spotsylvania County. The funding for this project was approved by the Corps on March 28, 2003. The property was purchased by the Central Virginia Battlefields Trust (CVBT) and placed under easement in February of 2003. The easement is held and monitored by the Virginia Department of Conservation and Recreation (DCR). Long-term protection will be achieved in accordance with the conservation easement. No additional monitoring is required for this project.

Based on a delineation of surface waters and wetlands conducted on the site in December 2006, the property contains approximately 6.1 acres of wetlands and 13.9 acres of forested uplands. The project will be closed in 2009 pending confirmation of the delineation.

**YK-2 Mattaponi River (Gwathmey 1)**

The purpose of this project is to conduct a non-tidal wetland and upland buffer restoration, wetland enhancement and wetland and upland preservation project at the Gwathmey project in King William County. The initial funding for this project was approved by the Corps on February 5 and 20, 2004. The Gwathmey project located off of State Route 600 includes two separate parcels including the Midway parcel and the Meadow Farm parcel. These parcels were originally placed under easement by the Virginia Outdoors Foundation in June of 2001; however, the Conservancy placed a more restrictive conservation easement on the parcels on April 12, 2004, that increased protection by eliminating farming or logging and allowing for restoration. Long-term protection will be achieved in accordance with the conservation easement which is held and monitored annually by the Conservancy.

Monitoring of the site in 2008 found that a majority (11 of 12) of the automated groundwater monitoring wells met the criteria for wetland hydrology. Despite the dry conditions in 2008, a majority of the wetland restoration area still met wetland hydrology requirements. Survival of planted tree species met success criteria (400 stems per acre or greater) in 15 of the 37 sample sites. This is a slight increase over the 2007 monitoring results (14 of 37) that could be due to natural recruitment and resprouting of planted trees. Despite the presence of wetland hydrology shown by the well data, only 10 of 37 plots met the criteria for hydrophytic vegetation. Corrective action to bring the site in compliance with the forested wetland goal for the site will be explored in 2009. The site is on a monitoring schedule until 2016 with reports being submitted to the Corps.

**YK-3 Dragon Run (Beldon)**

The purpose of this project is to conduct non-tidal wetland, stream, and the associated upland riparian buffer preservation at the Beldon property in King and Queen County. Funding for this project was approved by the Corps on August 5, 2004. The Conservancy purchased the site on October 4, 2004 and transferred it to a conservation buyer in 2007. Long-term protection of the site will be achieved in accordance with the deed restriction. No additional monitoring is required for this project.

In previous reports, the Beldon project was tracked in the Chesapeake Bay Basin; however, because the aquatic resources on the site that are used for mitigation occur within the watershed of a tributary of the Mattaponi, the site should be considered as mitigation for the York River Basin. This site was sold subject to deed restrictions in 2007. Proceeds from the sale, \$65,000, were returned to the general balance of the Fund. The Conservancy will request official closure of this project in 2009.

**CB-8/YK-4 Upper Crab Neck (BP North America)**

The details of this project are included under the Chesapeake Bay River Basin summary.

**YK-5 Cumberland Marsh (Healthvest, Inc.)**

The purpose of this project is to conduct a feasibility study, and subsequently to conduct non-tidal wetland, tidal wetland, and stream restoration at the Cumberland Marsh Preserve in New Kent County. The funding request to complete a feasibility study for the site was approved by the Corps on July 1, 2005. The funding request for restoration costs was approved by the Corps on February 22, 2007. The Conservancy has owned and managed the preserve since December 28, 1993. Long-term protection of the site is achieved through ownership by the Conservancy.

In addition to the proposed restoration activities at the impoundments, TNC will enhance the wooded riparian buffer along sections of Holt's Creek and the Pamunkey River through the planting of additional hardwoods to extend the existing wooded buffers to 100 feet. Although field verification is required, TNC estimates the maximum area requiring additional buffer planting is approximately five acres along approximately 1,400 linear feet of the Pamunkey River and approximately 2,200 linear feet of Holt's Creek. Herbicide spraying and/or mowing may be required in the planting area to control invasive species and increase the survival of the planted species.

Construction of the site is expected to occur in 2009.

#### **YK-6 Mattaponi River Site**

The purpose of this project is to conduct a real estate appraisal and acquisition of a conservation easement on this approximate 72.50 acre property for a stream and non-tidal wetland preservation project. The site is located near the town of Aylett in King William County, and is bordered by the Mattaponi River. The funding for the appraisal was approved by the Corps on August 12, 2005, with subsequent funding for easement acquisition approved on May 2, 2006. The Conservancy is in negotiations with the landowner to purchase a conservation easement on the property.

Protection in this area is not only a priority for the Conservancy, but also for the Commonwealth of Virginia. The conservation easement will be placed on the entire 72-acre parcel, preserving 36 acres of wetlands and 12 acres of stream buffer. An additional 24 acres may be subject to activities that exclude its appropriateness as compensatory mitigation, but can be viewed as additional protected acreage as it will not be developed.

Once the conservation easement is recorded on the site, a delineation of the property will be completed to determine mitigation credit and the Conservancy will request closure of the project.

#### **YK-7 Mattaponi River (Gwathmey 3)**

For a detailed description of this project reference the 2007 Annual Report. Funding for this project was approved by the Corps on June 22, 2006. The Conservancy secured a conservation easement on the parcel in 2007 and long-term protection will be achieved in accordance with the conservation easement which will be held and monitored annually by the Conservancy. The 18 acres included in this project are upland buffer and will be managed in conjunction with adjacent project YK – 2 Mattaponi River (Gwathmey 1).

#### **YK-8 Mattaponi River (Bach 1)**

The purpose of this project is to conduct non-tidal wetland and upland buffer preservation and stream and the associated upland riparian buffer preservation at the Bach property located in Caroline County. The initial funding for this project to complete a real estate appraisal was approved by the Corps on August 11, 2006. A second funding request to complete the acquisition and stewardship activities was approved by the Corps on December 15, 2006. The Conservancy purchased the 175 acre property on December 29, 2006. Due to legal ramifications of this purchase and the subsequent purchase of a conservation easement on additional property owned by Dr. Bach, the purchase of the 175 acres was rescinded by the Circuit Court of Caroline County



and fee simple title to the property was returned by the Court to Dr. Bach. The Court further compelled the landowner to return the purchase price to the Fund, which she did. The Conservancy anticipates officially closing this project in 2009.

#### **YK-9 Mattaponi River Site 2**

The purpose of this project is to conduct stream and the associated upland riparian buffer preservation at a site located in King William County. The funding for this project was approved by the Corps on December 15, 2006. The Conservancy plans to place a conservation easement on a donated 314.72 acres of this property; however, the mitigation area is 182 acres, as certain activities such as agriculture and silviculture will be allowed outside the designated “no-touch” buffers surrounding the aquatic resources. The easement will be held by the Conservancy, and long-term protection of the site is accomplished through the monitoring and enforcement of the easement. No additional monitoring is required for the project.

Negotiations with the landowner have stalled and the Conservancy will request closure of the project without mitigation credit in 2009.

#### **YK-10 Mattaponi River (Bach 2)**

The purpose of this project is to extend the additional protected acreage adjacent to the Mattaponi (Bach) site located in Caroline County. The funding request to complete the acquisition and stewardship activities was approved by the Corps on August 2007. The Conservancy partnered with VOF and utilized additional grant funds to secure the purchase of this easement. The easement was recorded in September 2007. Annual easement monitoring will be conducted by VOF and the Conservancy. No additional monitoring is required for this project.

A delineation of the site will be completed in 2009 to determine mitigation credit and the Conservancy will request closure of this project in 2009.